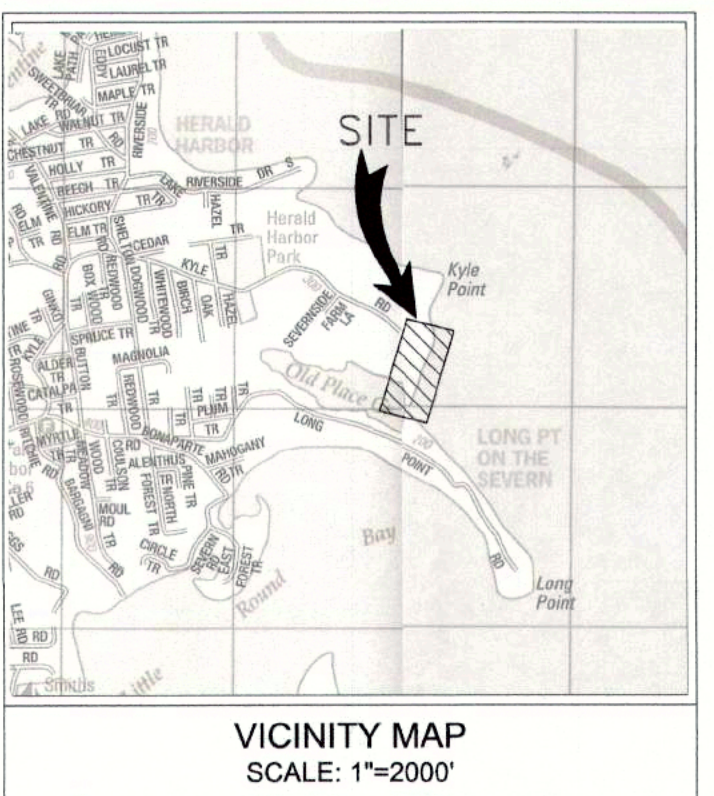


# CLAUSON LIVING SHORELINE

SHEET INDEX	
DESCRIPTION	SHEET
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### OVERALL LEGEND

- |                                    |  |
|------------------------------------|--|
| ZONING                             |  |
| EXISTING SOIL BOUNDARY             |  |
| FEMA FLOODPLAIN                    |  |
| EXISTING CONTOURS                  |  |
| PROPOSED CONTOURS                  |  |
| EXISTING METAL FENCE               |  |
| EXISTING PAVEMENT                  |  |
| EXISTING GRAVEL                    |  |
| EXISTING PIER                      |  |
| EXISTING BULKHEAD                  |  |
| EXISTING TREE                      |  |
| EXISTING TREE CANOPY               |  |
| PROPOSED BOULDER                   |  |
| STABILIZED CONSTRUCTION ENTRANCE   |  |
| LIMIT OF DISTURBANCE (L.O.D.)      |  |
| PROPOSED HAUL ROAD                 |  |
| MEAN HIGH WATER                    |  |
| MEAN LOW WATER                     |  |
| PROPOSED SAND FILL                 |  |
| PROPOSED SUBMERGED COBBLE          |  |
| SPARTINA ALTERNIFLORA (LOW MARSH)  |  |
| SPARTINA PATENS (HIGH MARSH)       |  |
| 100' CHANNELWARD ENCROACHMENT LINE |  |

### STANDARD RESPONSIBILITY NOTES

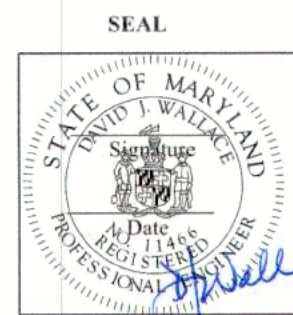
- a. All development and construction will be done in accordance with this sediment and erosion control plan, and further, authorize the right of agency for periodic on-site evaluation by the Anne Arundel Soil Conservation District (AASCD) Board of Supervisors or their authorized agents.
  - b. Any responsible personnel involved in the construction project will have a certificate of training from the Anne Arundel Soil Conservation District Environmental approved training program for control of sediment and erosion before beginning the project.
- Responsible personnel on site:
- c. If applicable, the appropriate enclosure will be constructed and maintained on sediment basins included in this plan. Such structure(s) will be in compliance with the Anne Arundel County Code.
- The developer is responsible for the acquisition of all easements, right, and/or rights-of-way that may be required for the sediment and erosion control practices, storm water management practices and the installation of sediment and erosion control structures and/or down-slope properties included in the plan.
- For initial soil disturbance or re-disturbance, permanent and/or temporary stabilization per the AASCD Vegetative Establishment shall be completed within three calendar days for the surface of all construction, ditches, perimeter slopes and all slopes greater than 3:1 horizontal to 1 vertical (3:1); and seven days for all other disturbed or graded areas on the project site.
- d. The grading and sediment control approval on this plan extends only to those areas within the limits of the plan.
- e. The approval of this plan for sediment and erosion control does not relieve the developer/consultant of the responsibility for the following:
1. The developer must request that the sediment and erosion control inspector approve work performed in accordance with the approved erosion and sediment control plan, the grading or building permit.
  2. All material shall be taken to a site with a approved sediment and erosion control plan.
  3. First phase inspection of approval of the sediment and erosion control inspector shall be required to verify the implementation of the erosion and sediment control practices prior to proceeding with any other disturbance or grading. Other building or grading inspection approvals may not be authorized until initial inspection of the sediment and erosion control plan is approved.
  4. Erosion and sediment control permits may also require that an inspection and certification of the installation of sediment control also be performed by a design professional prior to construction of the sediment control.
  5. Erosion and sediment control inspection and stabilization of the site prior to removal of sediment and erosion controls.
- f. Erosion and sediment control may not be verified by responsible personnel to the satisfaction of the sediment control inspector prior to commencing work.

Signature of Developer/Owner: Janet M. Clauson Date: 11/03/2016  
 Print Name: Janet M. Clauson  
 Title: \_\_\_\_\_  
 Affiliation: \_\_\_\_\_  
 Address: 301 Kyle Road, Countryside  
 Telephone Number: 410.887.2027  
 Email Address: janet.clauson.2016@gmail.com

### CONSULTANT'S CERTIFICATION

The Developer's plan to control silt and erosion is adequate to contain the silt and erosion on the property covered by the plan. I certify that this plan of erosion and sediment control represents a practical and workable plan based on my personal knowledge of this site, and was prepared in accordance with the requirements of the AASCD Plan Submittal Guidelines and the current Maryland Standards and Specifications for Soil Erosion and Sediment Control. I have reviewed this erosion and sediment control plan with the owner/developer.

MD P.E. License # 11466  
MD Land Surveyor License # \_\_\_\_\_  
MD Landscape Architect # \_\_\_\_\_  
Name DAVID J. WALLACE  
Firm Name \_\_\_\_\_  
Address 701 CHESAPEAKE AVENUE  
City ANNAPOLIS State MD Zip Code 21403



**NOTE:** The consultant's certification must be signed and sealed by a professional engineer if the site lies within the Severn River Watershed.

Clauson Living Shoreline - Project Data			
Feature	Existing	Proposed	Difference
<i>Spartina Patens</i> - High Marsh (SF)	0	22,037	+22,037
<i>Spartina Alterniflora</i> - Low Marsh (SF)	0	20,062	+20,062
Total Tidal Wetlands (SF)	5,434	42,099	+36,665
Transitional Planting	0	11,195	+11,195
Bulkhead (LF)	205	0	-205
Revetment (LF)	252	0	-252
Shoreline at MHW (LF)	911	1,367	+456

## LOCATION MAP

SCALE: 1"=100'

## SEQUENCE OF CONSTRUCTION

**NOTES:**

- THE EXISTING CONDITION OF THE SITE IS SHORELINE WITH SECTIONS UNPROTECTED, PROTECTED BY REVEMENT, AND PROTECTED BY BULKHEAD. THE SHORELINE IS ADJACENT TO A STEEP BLUFF.
- TO PREVENT DISCHARGE OF SEDIMENT DURING STORM EVENTS, ONLY DISTURB THAT AREA WHICH CAN BE STABILIZED IN ONE WORKING DAY. ALL DISTURBED AREAS SHALL BE STABILIZED WITH WOODCHIPS AT THE END OF EACH WORKDAY.
- THE CONTRACTOR IS TO MINIMIZE DISTURBANCE WITHIN THE APPROVED LIMIT OF DISTURBANCE. SPECIAL CARE IS TO BE TAKEN TO AVOID DAMAGE TO NATIVE FOREST, MARSH GRASSES, OR SUBMERGED AQUATIC VEGETATION WITHIN THE LIMIT OF DISTURBANCE NOT MARKED FOR REMOVAL.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ASSURING THAT THE SEDIMENT CONTROL MEASURES ARE FUNCTIONAL ON A DAY TO DAY BASIS. NO DISTURBED AREAS ARE TO BE ALLOWED TO DRAIN DIRECTLY OFF SITE. DISTURBED AREAS ALONG STORM DRAINS AND OUTFALLS SHALL BE STABILIZED IMMEDIATELY AFTER COMPLETION.

**CONSTRUCTION SEQUENCE:**

1. TAKE OUT, FLAG, OR OTHERWISE DELINEATE THE LIMITS OF DISTURBANCE **(1 DAY)**
2. NOTIFY APPLICABLE STATE AND COUNTY AGENCIES THAT WORK WILL COMMENCE IN 10 DAYS. NOTIFY THE DEPARTMENT OF INSPECTIONS AND PERMITS (410-222-7780) AT LATEST 48 HOURS BEFORE COMMENCING WORK. WORK MAY NOT COMMENCE UNTIL THE PERMITTEE OR THE RESPONSIBLE PERSONNEL HAVE MET ON SITE WITH THE SEDIMENT AND EROSION CONTROL INSPECTOR TO REVIEW THE APPROVED PLANS. **(1 DAY)**
3. INSTALL PERIMETER SEDIMENT AND EROSION CONTROL MEASURES, SUCH AS STABILIZED CONSTRUCTION ENTRANCE, REINFORCED SILT FENCE, AND TURBIDITY CURTAIN AS NEEDED OR AT THE DISCRETION OF THE INSPECTOR. **(3 DAYS)**
4. AFTER OBTAINING APPROVAL FROM THE ANNIE ARUNDEL COUNTY SEDIMENT AND EROSION CONTROL INSPECTOR, BEGIN CONSTRUCTION OF THE HAUL ROAD FOR SHORELINE ACCESS, INCLUDING NECESSARY GRADING, CLEARING, AND GRUBBING, IN ACCORDANCE WITH THE APPROVED PLANS. CUT AND REMOVE AND/OR BURY EXISTING BULKHEAD AND REVETMENT WHERE NECESSARY TO INSTALL HAUL ROAD. SPRAY PHRAGMITES WITH HERBICIDE BEFORE CLEARING/GRUBBING. **(10 DAYS)**
5. CONSTRUCT LIVING SHORELINE BY INSTALLING VEGETATED BREAKWATERS, TOMBOLOS, AND BOULDER OUTCROPS IN ACCORDANCE WITH THE APPROVED PLANS. CUT AND REMOVE AND/OR BURY EXISTING BULKHEAD AND REVETMENT WHERE NECESSARY TO INSTALL LIVING SHORELINE FEATURES **(15 DAYS)**
6. FOLLOWING COMPLETION OF LIVING SHORELINE FEATURES IN STEP 5, REDUCE WIDTH OF CONSTRUCTION HAUL ROAD AND CREATE RIPARIAN ACCESS PATH AS SHOWN ON THE APPROVED PLANS **(4 DAYS)**
7. COMPLETE SITE PLANTINGS IN ACCORDANCE WITH THE PLANTING PLAN AND SPECIFICATIONS. IF PHRAGMITES HAVE RESPROUTED, SPRAY AGAIN WITH HERBICIDE PRIOR TO PLANTINGS. **(3 DAYS)**
8. ONCE THE SITE IS 95% STABILIZED AND WITH THE APPROVAL OF THE SEDIMENT AND EROSION CONTROL INSPECTOR, REMOVE ALL OF THE REMAINING SEDIMENT AND EROSION CONTROL DEVICES. **(3 DAYS)**

**TOTAL PROJECT DURATION: 40 DAYS**

T

- |  |  |   |
|--|--|---|
| <b>1A. OWNER/ DEVELOPER:</b><br>CLAUSON JAMES A<br>CLAUSON JANET M<br>301 KYLE ROAD<br>CROWNSVILLE MD 21032-1842 | <b>1B. CONSULTANT:</b><br>UNDERWOOD & ASSOCIATES<br>901-A COMMERCE ROAD<br>ANNAPOLIS, MARYLAND 21401<br>BUSINESS PH. (OFFICE) 410.849.3211 | <b>1C. ENGINEER:</b><br>CHAD J. WALLACE , P.E.<br>701 CHESAPEAKE AVENUE<br>ANNAPOLIS, MARYLAND 21403<br>BUSINESS PH. 410.554.1225 |
|--|--|---|

SOIL TYPE:

- CSE - Collington-Wist and Westphalia soils, 15 to 25 percent Slopes  
Hydrologic Soil Group Rating - A.
3. EXISTING ZONING IS R1 RESIDENTIAL.
4. PROPERTY CAN BE FOUND AT TAX MAP 5293 & 5294, GRID K-2 & A-2, PARCEL 0151.
5. Total area of properties is: 191,614.80 square feet = 4.40 Acres  
Total land area disturbed is: 41,235.03 square feet = 0.95 Acres±
6. Total cut on site: 249.91 CU YDS    Total fill : 4,040.65 CU YDS

Note: Cut and Fill quantities provided do not represent bid quantities. These quantities do not distinguish between topsoil, structural fill or embankment material, nor do they reflect consideration of undercutting or removal of unsuitable material. The contractor shall familiarize himself with site conditions which may affect the work.

## GENERAL NOTES

1. THE SUBJECT PROPERTY IS KNOWN AS TAX MAP 52938, 5294, GRID K-2 & A-2, PARCEL 0151.
  2. EXISTING TOPOGRAPHY AND SURFACE FEATURES ARE SHOWN BASED ON MARYLAND STATE LIDAR DATA ACQUIRED 2014.
  3. THE COORDINATES, BEARINGS, AND ELEVATIONS SHOWN HEREON ARE BASED ON THE MARYLAND STATE SYSTEM OF PLANE COORDINATES NAD 83.
  4. EXISTING UTILITIES AND OBSTRUCTIONS HAVE BEEN SHOWN FROM AVAILABLE RECORDS AND SHALL BE VERIFIED BY THE CONTRACTOR TO HIS SATISFACTION PRIOR TO CONSTRUCTION. OWNER/DEVELOPER, NOR UNDERWOOD & ASSOCIATES OR NEITHER THE ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS, WARRANTS OR GUARANTEES THE ACCURACY OR THE COMPLETENESS OF THE EXISTING UTILITY INFORMATION SHOWN HEREON. CONTRACTOR SHALL TAKE ANY AND ALL PRECAUTIONS NECESSARY TO AVOID DAMAGE TO EXISTING UTILITIES, AND ANY DAMAGE TO THEM RESULTING FROM HIS OPERATIONS SHALL BE IMMEDIATELY REPAIRED AT HIS EXPENSE. AS A MINIMUM PRECAUTION, CONTRACTOR SHALL NOTIFY MISS UTILITY (800-257-7777) AT LEAST FIVE DAYS PRIOR TO ANY EXCAVATION, BORING, PILE DRIVING, DIGGING, OR OTHER CONSTRUCTION ACTIVITY TO OBTAIN FIELD LOCATIONS OF EXISTING GAS, ELECTRIC, WATER, SEWER, OR TELEPHONE LINES. SHALL DETERMINE THE LOCATION OF ANY TELEVISION CABLES IN THE VICINITY OF THE WORK AREA, AND SHALL PROVIDE ANY REQUIRED BRACING OF POWER POLES IN THE VICINITY OF THE WORK AREA AT HIS EXPENSE. UTILITIES SHALL BE RELOCATED AT OWNER'S EXPENSE ONLY WITH OWNER'S SPECIFIC WRITTEN APPROVAL.
  5. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING OR RESTORING TO ORIGINAL CONDITION ANY EXISTING FENCES, PAVED AREAS, SIDEWALKS, MAILBOXES, ETC. THAT ARE REMOVED OR DAMAGED DURING CONSTRUCTION AND ALL DISTURBED AREAS SHALL BE RETURNED TO THEIR ORIGINAL CONDITION, UNLESS OTHERWISE INDICATED.
  6. UNLESS OTHERWISE NOTED, ALL CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH THE LATEST ANNE ARUNDEL COUNTY DETAILS AND SPECIFICATIONS.
  7. IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO MENTION SPECIFICALLY ANY WORK THAT WOULD NATURALLY BE REQUIRED TO COMPLETE THE PROJECT SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO PERFORM SUCH WORK.
  8. THESE DRAWINGS DO NOT INCLUDE THE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. ALL CONSTRUCTION MUST BE DONE IN COMPLIANCE WITH THE MOST CURRENT VERSION OF OSHA STANDARDS AND/OR REGULATIONS.
  9. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER OF ANY DEVIATION TO THIS PLAN PRIOR TO ANY CHANGE BEING MADE. ANY CHANGE IN THIS PLAN WITHOUT WRITTEN AUTHORIZATION FOR SAID CHANGE FROM THE ENGINEER SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR OR SUBCONTRACTOR. SAID CHANGES MAY WARRANT COUNTY REVIEW AND APPROVAL.
  10. THE CONTRACTOR SHALL NOTE THAT IN THE CASE OF A DISCREPANCY BETWEEN THE SCALED AND THE FIGURED DIMENSIONS SHOWN ON THESE PLANS, THE FIGURED DIMENSION SHALL GOVERN.
  11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF HIS CONSTRUCTION WITH THE CONSTRUCTION BY OTHER CONTRACTORS.
  12. THESE DRAWINGS SHALL BE USED ONLY FOR:
    - INSTALLATION OF SEDIMENT CONTROL MEASURES
    - CLEARING AND GRADING
    - INSTALLATION OF ONSITE STORM CONVEYANCE SYSTEMS/LIVING SHORLINE.
- NOTE TO CONTRACTOR:**  
EROSION AND SEDIMENT CONTROL SHALL  
BE STRICTLY ENFORCED.

NOTE TO CONTRACTOR:

EROSION AND SEDIMENT CONTROL SHALL BE STRICTLY ENFORCED.

PERMITS	PERMIT #
ANNE ARUNDEL COUNTY GRADING PERMIT	G02017587
ANNE ARUNDEL SOIL CONSERVATION DISTRICT	2018-0196
ANNE ARUNDEL COUNTY BUILDING PERMITS	B02356483 B02356484 B02356485
MDE TIDAL WETLANDS LICENSE	17-WL-0367
UNITED STATES ARMY CORPS OF ENGINEERS	201760607

## APPROVALS

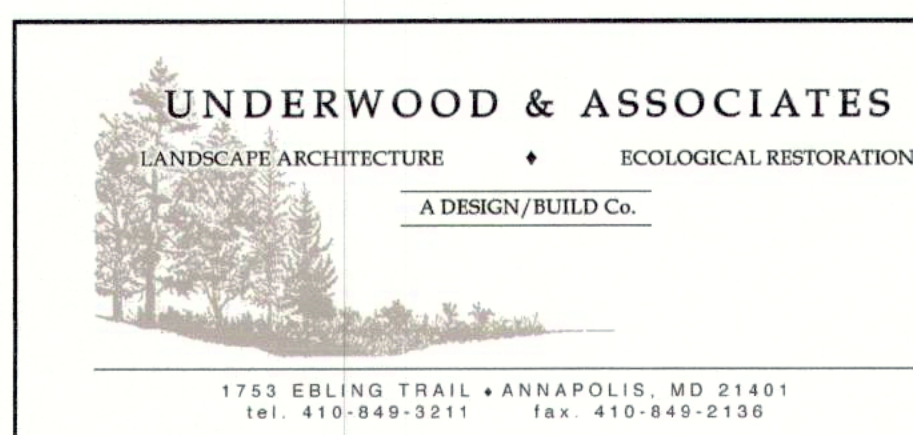
GUST 15, 2018


# TITLE SHEET

## CLAUSON LIVING SHORELINE

MAP 5293 & 5294 , GRID K2 & A2 , PARCEL 0151  
FORMERLY MAP 0031, GRID 0024, PARCEL 0151  
ND ELECTION DISTRICT, ANNE ARUNDEL COUNTY

PLOTTED: Aug 14, 2018 - 12:10pm



No.	Date	Revision	By	Approved By	DAVID J. WALLACE, P.E.
					<p>PROFESSIONAL CERTIFICATION</p> <p>I, DAVID J. WALLACE, CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 11466 EXPIRATION DATE: MAY 28, 2019.</p> <p>DAVID J. WALLACE, P.E. 701 CHESAPEAKE AVENUE ANNAPOLIS, MD 21403 BUSINESS PH. 410.554.1225</p>
					 <p><i>D. Wallace</i> Signature <i>D. Wallace</i> Date</p>



						AUGUST 15, 2018			
Revised		Approved	Date	Approved	Date	Scale	AS SHOWN	<b>TITLE SHEET</b>  <b>CLAUSON LIVING SHORELINE</b> <b>301 KYLE ROAD</b> <small>MAP 5293 &amp; 5294, GRID K2 &amp; A2, PARCEL 0151          FORMERLY MAP 0031, GRID 0024, PARCEL 0151          2ND ELECTION DISTRICT, ANNE ARUNDEL COUNTY</small>	
Date	By					Drawn By	J.W.K./K.B.		
		Chief, Engineer		Project Manager		Approved By	D.W.		
		Approved	Date	Approved	Date	Sheet No.	1 Of 13		
						Project No.	15-028		
		Assistant Chief Engineer		Chief, Right of Way		Proposal No.	...		

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**NOTES:**  
MHW = 0.42 / MLW = -0.55  
MHW AND MLW ARE REFERENCED  
TO NAVD88 AND BASED ON NOAA  
ANNAPOLIS, MD STATION 8575512

FOI 350	
E 1,437,250	

DAVID J. WALLACE, P.E.

PROFESSIONAL CERTIFICATION

I, DAVID J. WALLACE, CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 11466  
EXPIRATION DATE: MAY 28, 2019.

DAVID J. WALLACE, P.E.  
701 CHESAPEAKE AVENUE  
ANNAPOLIS, MD 21403  
BUSINESS PH. 410.554.1225



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**LEGEND**

PROPOSED FEATURES

CONTOUR — 1 —

CONTOUR — 5 —

MEAN HIGH WATER — PMHW —

MEAN LOW WATER — PMLW —

SAND FILL

SUBMERGED COBBLE

BOULDERS

COARSE WOODY DEBRIS

**NOTES**

- MATERIAL FROM EX. REVETMENT TO BE REUSED OR BURIED AS DEEMED APPROPRIATE.
- EX. BULKHEAD TO BE TRIMMED AND BURIED BELOW P.R. GRADE.
- THE CONTRACTOR SHALL ASSURE THAT ALL EXCAVATED MATERIAL FROM PHRAGMITES REMOVAL AREA SHALL BE BURIED AT AN APPROVED DISPOSAL SITE TO PREVENT THE SPREAD OF THIS SPECIES. OR THE PHRAGMITES SHALL BE TREATED WITH RODEO IN ACCORDANCE WITH STATE AND FEDERAL LAWS. FOR AT LEAST ONE GROWING SEASON PRIOR TO EXCAVATION. THE CONTRACTOR SHALL OBTAIN A TOXIC MATERIAL PERMIT FROM MDE PRIOR TO THE APPLICATION OF ANY HERBICIDE TO ERADICATE PHRAGMITES.
- EX. PVC PIPES TO BE CUT AND REMOVED. SLOTTED HOPE TO RUN BEHIND BOULDER OUTCROP AND UNDERNEATH IMPORTED MATERIAL. SLOTTED HOPE TO BE INSTALLED LEVEL ALONG THE SHORELINE. BEDDED IN GRAVEL, SET AT MLW, AND CAPPED AT EACH END SUCH THAT STORMWATER INFILTRATES ALONG ENTIRE LENGTH OF PIPE.
- EX. FALLEN TREES AND COARSE WOODY MATERIAL FROM WITHIN AND NEAR THE SITE AND TREES AND LIMBS REMOVED DURING CONSTRUCTION ARE TO BE BENEFICIALLY REUSED ON SITE.

**UNDERWOOD & ASSOCIATES**

LANDSCAPE ARCHITECTURE • ECOLOGICAL RESTORATION

A DESIGN/BUILD Co.

1753 EBLING TRAIL • ANNAPOLIS, MD 21401  
TEL. 410-849-5211 FAX 410-849-2136

No.	Date	Revision	By	Approved By

**PLAN**

SCALE: 1"=40'

DAVID J. WALLACE, P.E.

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BUSINESS PH. 410.554.1225



Revised	Approved	Date	Approved	Date
Date	By			

Scale	AS SHOWN
Drawn By	J.W.K./K.B.
Approved By	D.W.
Sheet No.	3 Of 13
Project No.	15-028
Proposal No.	

**PROPOSED CONDITION/  
GRADING PLAN**

**CLAUSON LIVING  
SHORELINE**

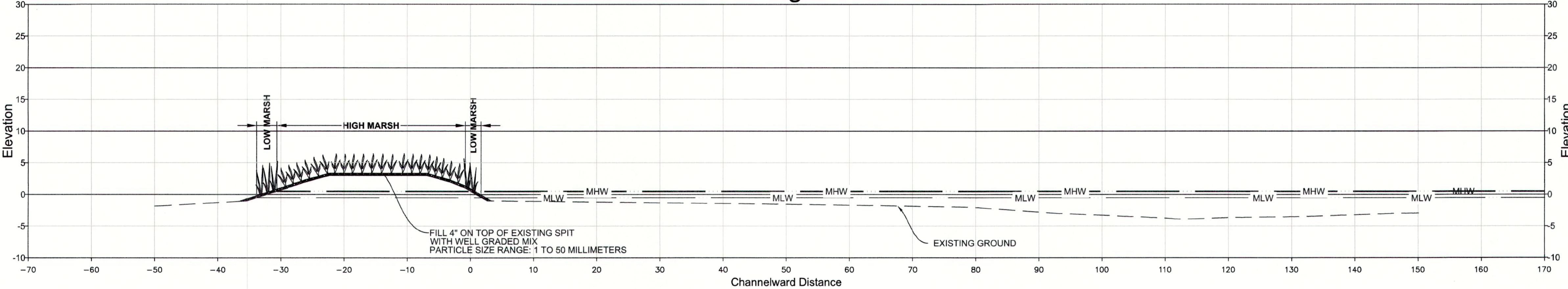
303, 301, & 300 KYLE ROAD  
MAP 5293 & 5294, GRID K2 & A2, PARCEL 0151  
FORMERLY MAP 0031, GRID 0024, PARCEL 0151  
2ND ELECTION DISTRICT, ANNE ARUNDEL COUNTY



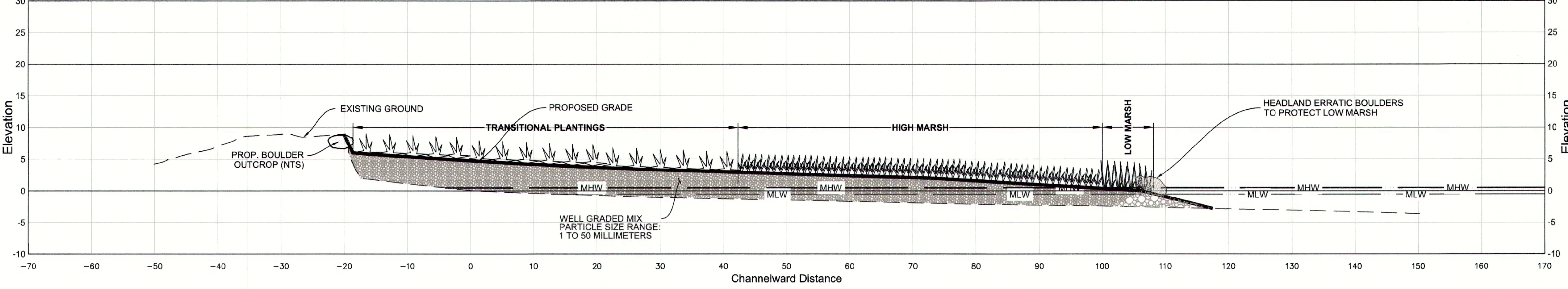




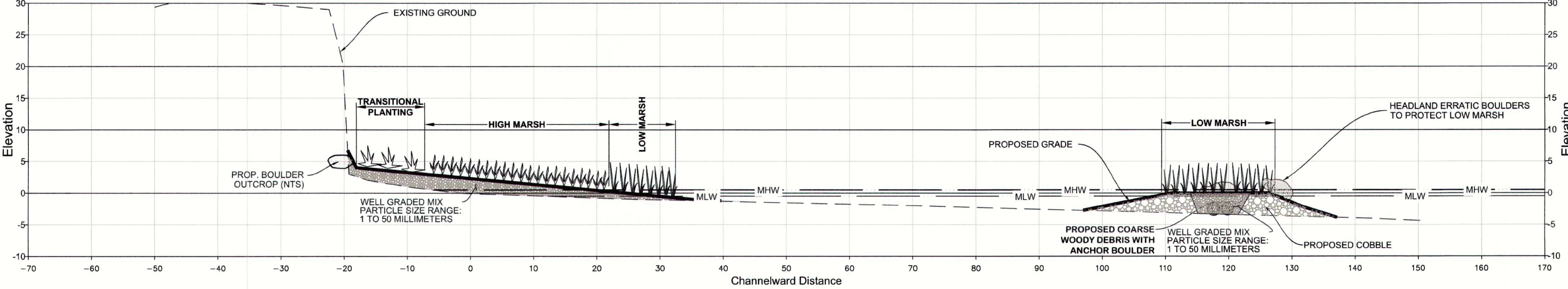
Section A - Phragmites Removal



Section B - Terminal Headland



Section C - Terminal Headland



SCALE: HORIZONTAL 1"=10',  
VERTICAL 1"=10'

**LEGEND**

- EXISTING GRADE
- PROPOSED GRADE
- MEAN HIGH WATER (MHW)
- MEAN LOW WATER (MLW)
- SAND/WOOD CHIP MIX
- SUBMERGED COBBLE
- BOULDER OUTCROP
- SPARTINA PATENS
- SPARTINA ALTERNIFLORA

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Revised	By	Approved	Date	Approved	Date

AUGUST 15, 2018

Scale	AS SHOWN
Drawn By	J.W.K./K.B.
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Sheet No.	5 Of 13
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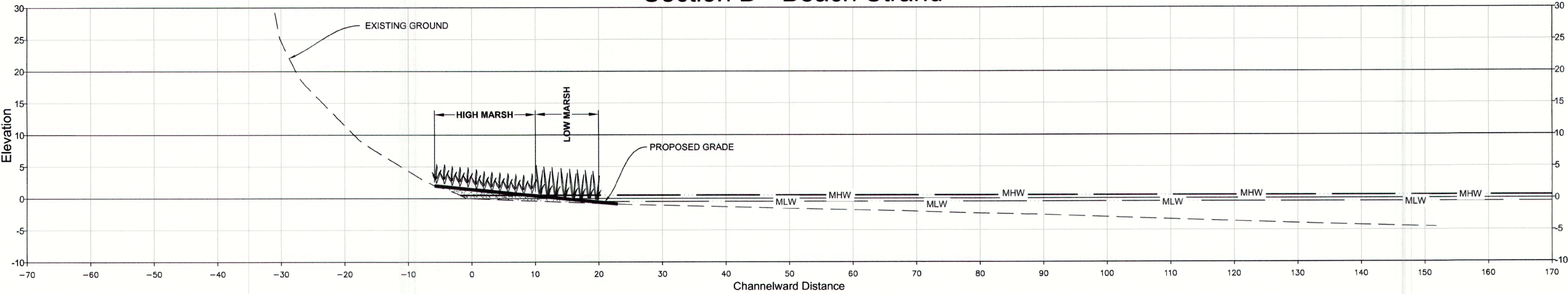
**CROSS SECTION PLAN**  
**CLAUSON LIVING SHORELINE**  
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FORMERLY MAP 0031, GRID 0024, PARCEL 0151  
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PLOTTED: Aug 14, 2018 - 12:15pm

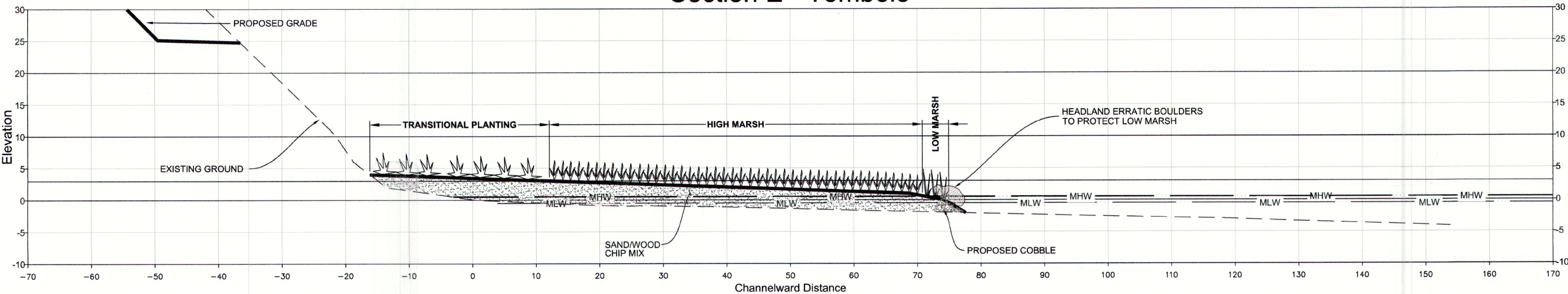
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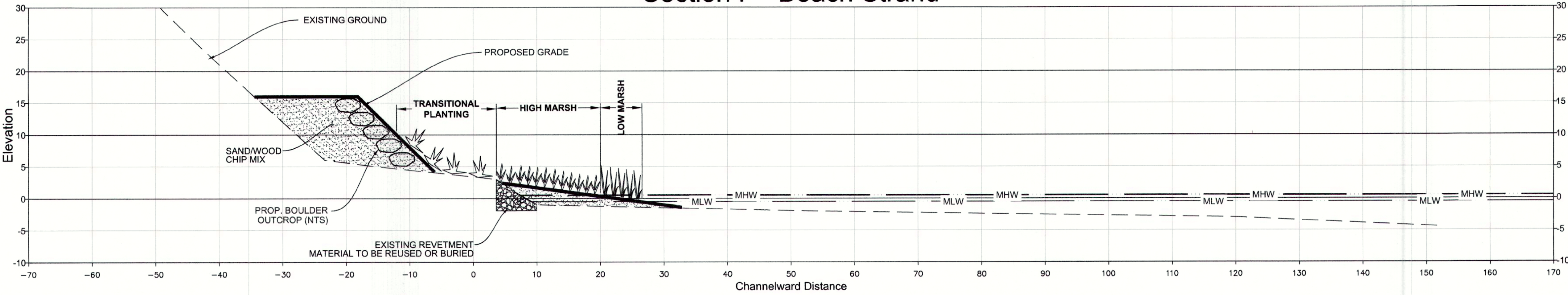
Section D - Beach Strand



Section E - Tombolo



Section F - Beach Strand



SCALE: HORIZONTAL 1"=10',  
VERTICAL 1"=10'

LEGEND

- EXISTING GRADE
- PROPOSED GRADE
- MEAN HIGH WATER (MHW)
- MEAN LOW WATER (MLW)
- SAND/WOOD CHIP MIX
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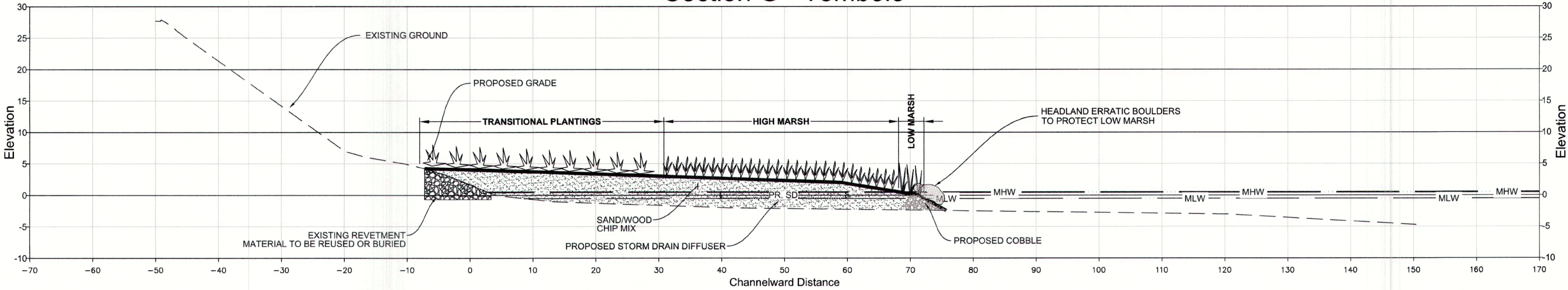


Revised	Approved	Date	Approved	Date
Date	By			

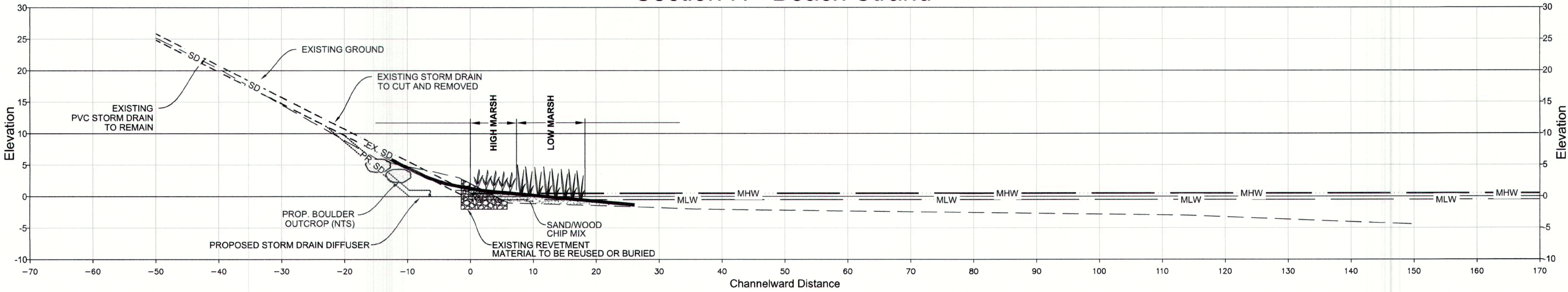
AUGUST 15, 2018	
Scale	AS SHOWN
Drawn By	J.W.K./K.B.
Approved By	D.W.
Sheet No.	6 Of 13
Project No.	15-028
Proposal No.	...
<b>CROSS SECTION PLAN</b> <b>CLAUSON LIVING SHORELINE</b> 303, 301, & 300 KYLE ROAD MAP 5293 & 5294, GRID K2 & A2, PARCEL 0151 FORMERLY MAP 0031, GRID 0024, PARCEL 0151 2ND ELECTION DISTRICT, ANNE ARUNDEL COUNTY	



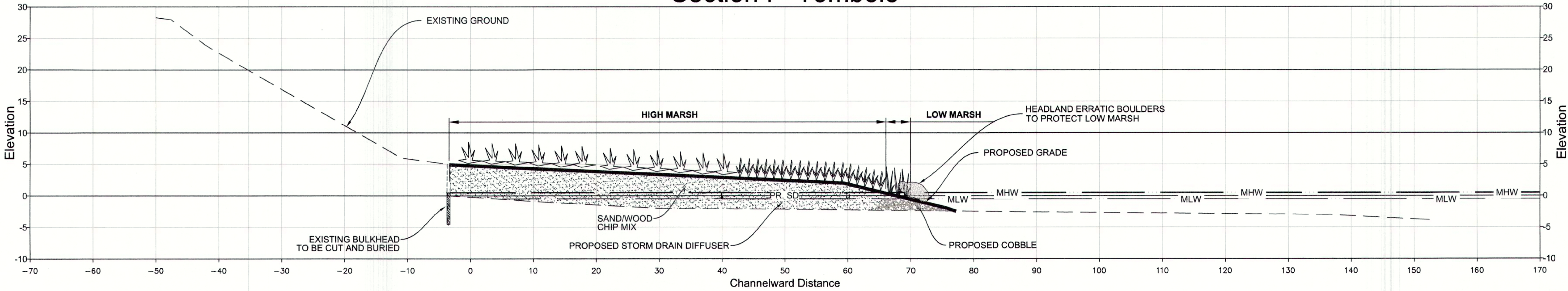
Section G - Tombolo



Section H - Beach Strand



Section I - Tombolo



SCALE: HORIZONTAL 1"=10',  
VERTICAL 1"=10'

LEGEND

- EXISTING GRADE
- PROPOSED GRADE
- MEAN HIGH WATER (MHW)
- MEAN LOW WATER (MLW)
- SAND/WOOD CHIP MIX
- SUBMERGED COBBLE
- BOULDER OUTCROP
- SPARTINA PATENS
- SPARTINA ALTERNIFLORA

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No.	Date	Revision	By	Approved By

DAVID J. WALLACE, P.E.  
PROFESSIONAL CERTIFICATION  
I, DAVID J. WALLACE, CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 11466 EXPIRATION DATE: MAY 28, 2019.  
DAVID J. WALLACE, P.E.  
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ANNAPOLIS, MD 21403  
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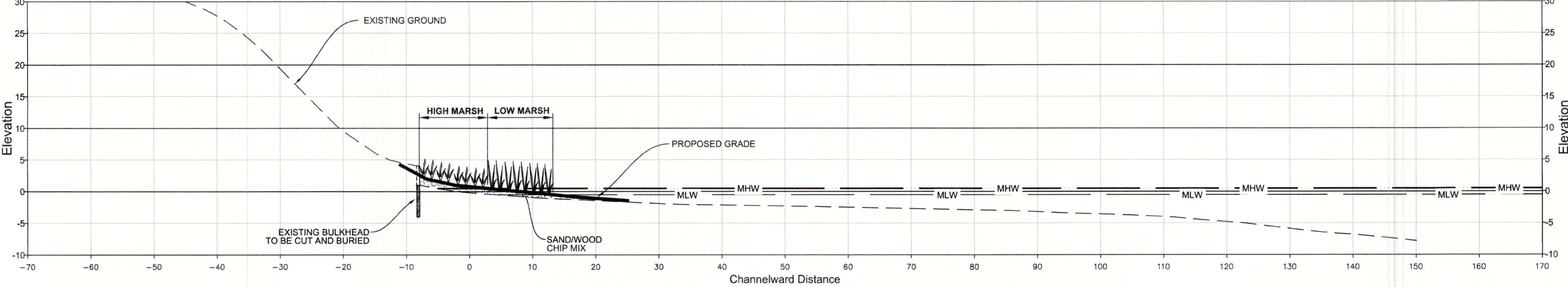


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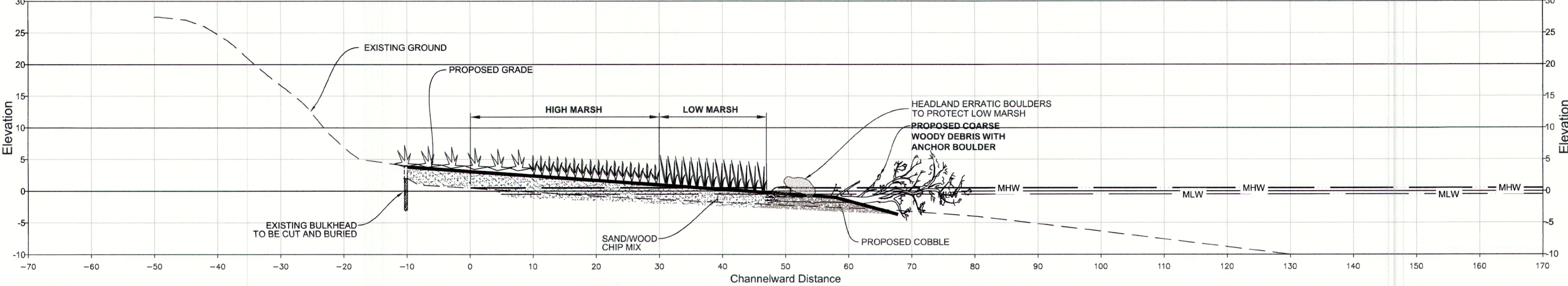
AUGUST 15, 2018	
Scale	AS SHOWN
Drawn By	J.W.K./K.B.
Approved By	D.W.
Sheet No.	7 Of 13
Project No.	15-028
Proposal No.	...
<b>CROSS SECTION PLAN</b> <b>CLAUSON LIVING SHORELINE</b> 303, 301, & 300 KYLE ROAD MAP 5293 & 5294, GRID K2 & A2, PARCEL 0151 FORMERLY MAP 0031, GRID 0024, PARCEL 0151 2ND ELECTION DISTRICT, ANNE ARUNDEL COUNTY	



Section J - Beach Strand



Section K - Terminal Headland



SCALE: HORIZONTAL 1"=10',  
VERTICAL 1"=10'

LEGEND

EXISTING GRADE	---
PROPOSED GRADE	---
MEAN HIGH WATER (MHW)	---
MEAN LOW WATER (MLW)	---
SAND/WOOD CHIP MIX	---
SUBMERGED COBBLE	---
BOULDER OUTCROP	---
SPARTINA PATENS	---
SPARTINA ALTERNIFLORA	---

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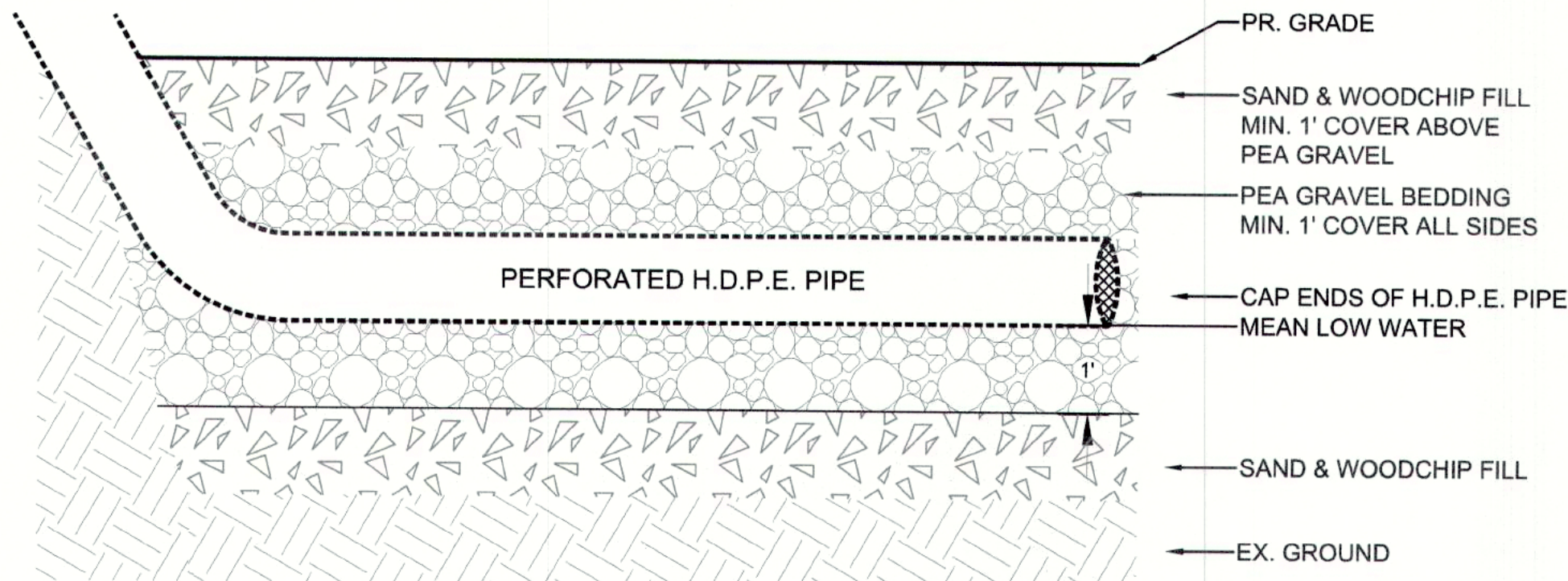


Revised	Approved	Date	Approved	Date
Date	By			

AUGUST 15, 2018	
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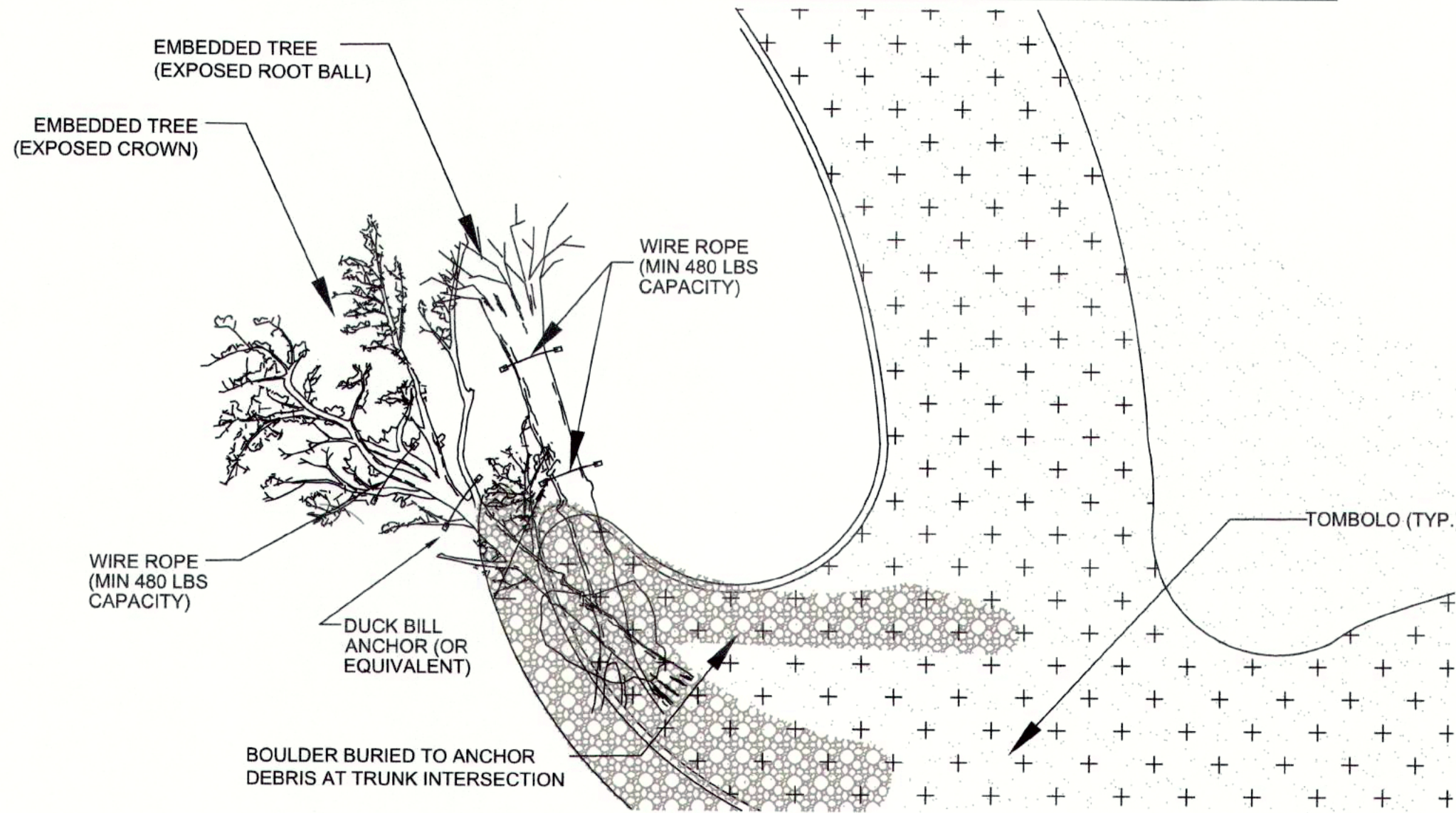


STORM DRAIN DIFFUSER DETAIL - PROFILE VIEW  
NOT TO SCALE

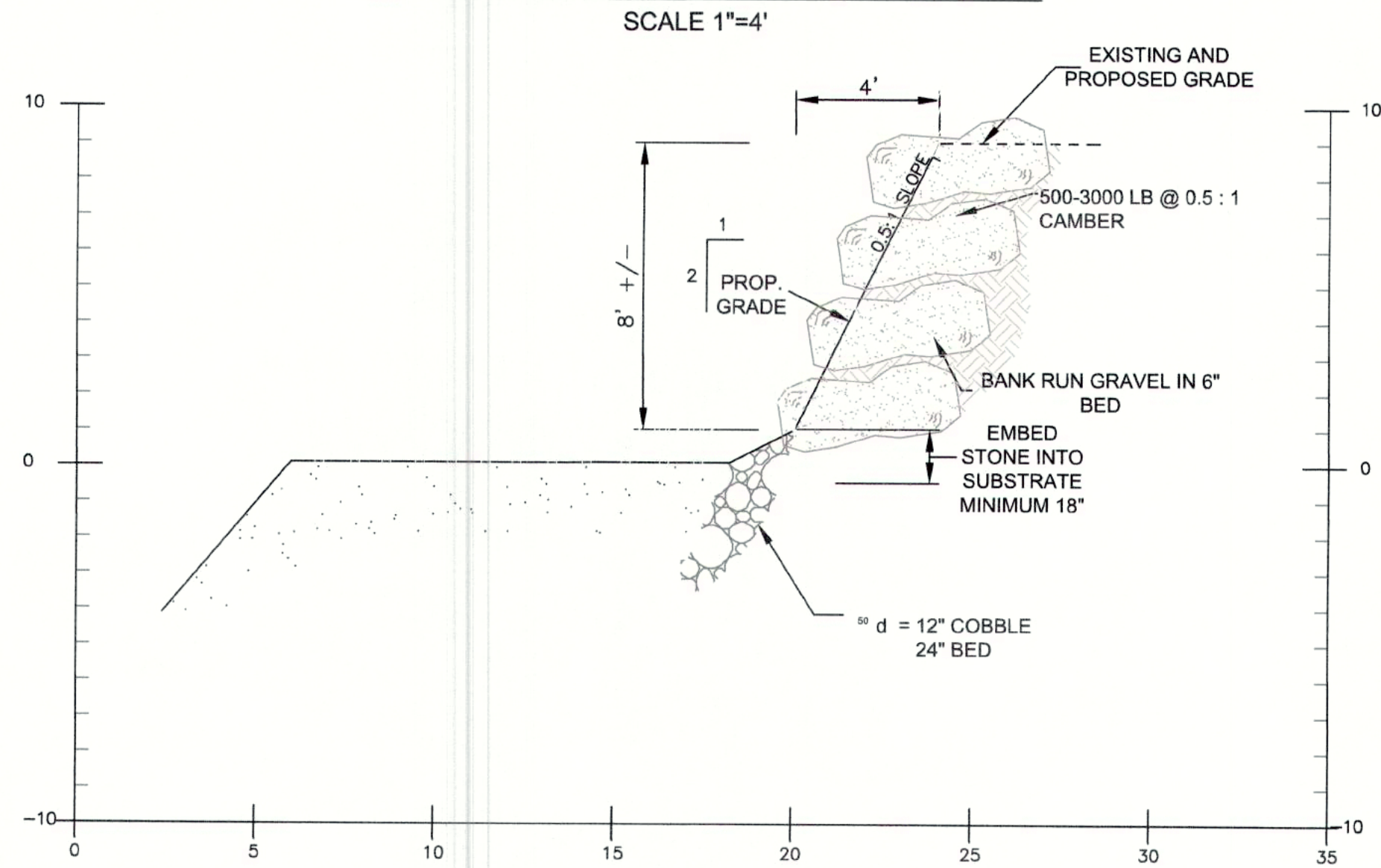


- NOTES:
- PERFORATED PIPE TO BE LAID LEVEL AND CAPPED TO ENSURE EVEN DIFFUSION OF STORMWATER INTO SHORELINE FILL
  - CLEANOUT(S) AND OVERFLOW OPENING TO BE PLACED AT ENGINEER'S DISCRETION
  - USE DIAMETER OF PIPE AS SHOWN ON APPROVED PLANS OR AT ENGINEER'S DISCRETION

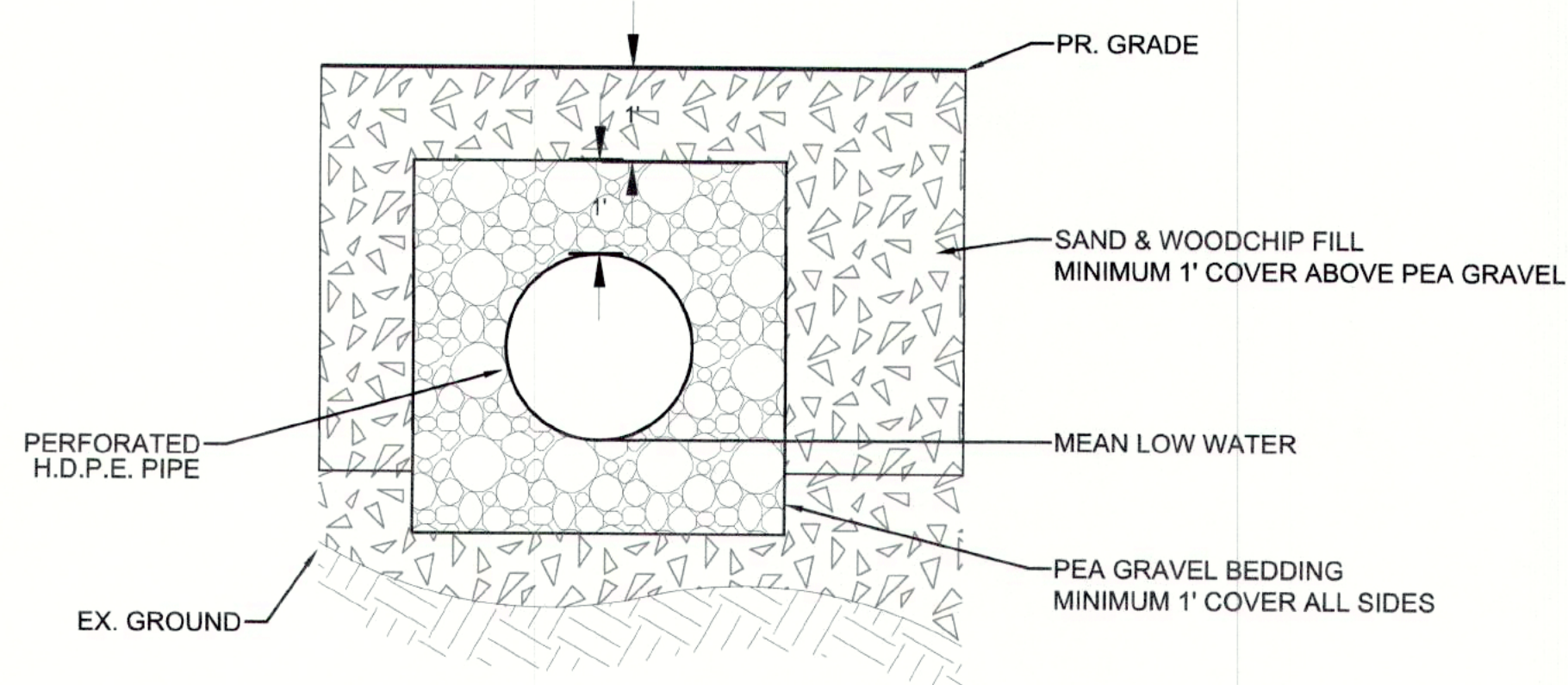
WOODY DEBRIS ANCHORING (TYP.) - PLAN VIEW



BOULDER OUTCROP DETAIL

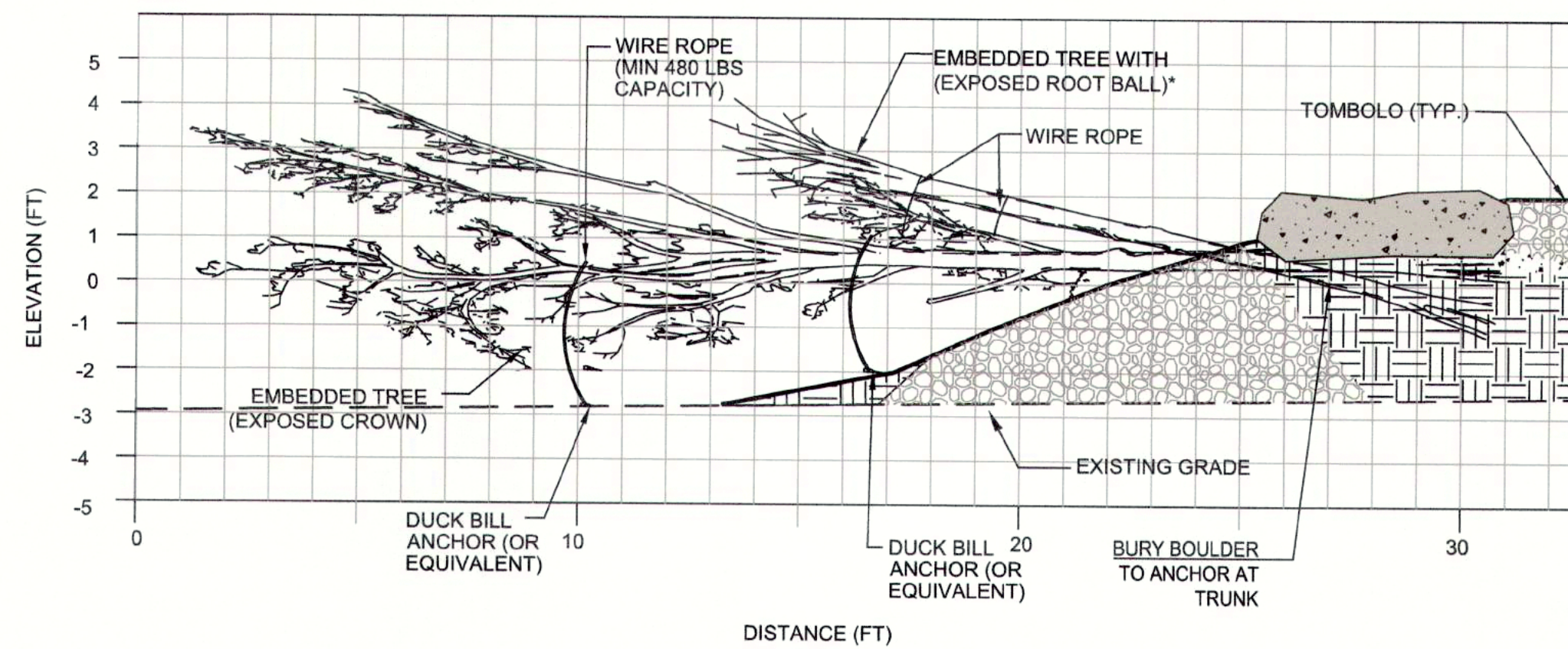


STORM DRAIN DIFFUSER DETAIL - CROSS SECTION VIEW  
NOT TO SCALE



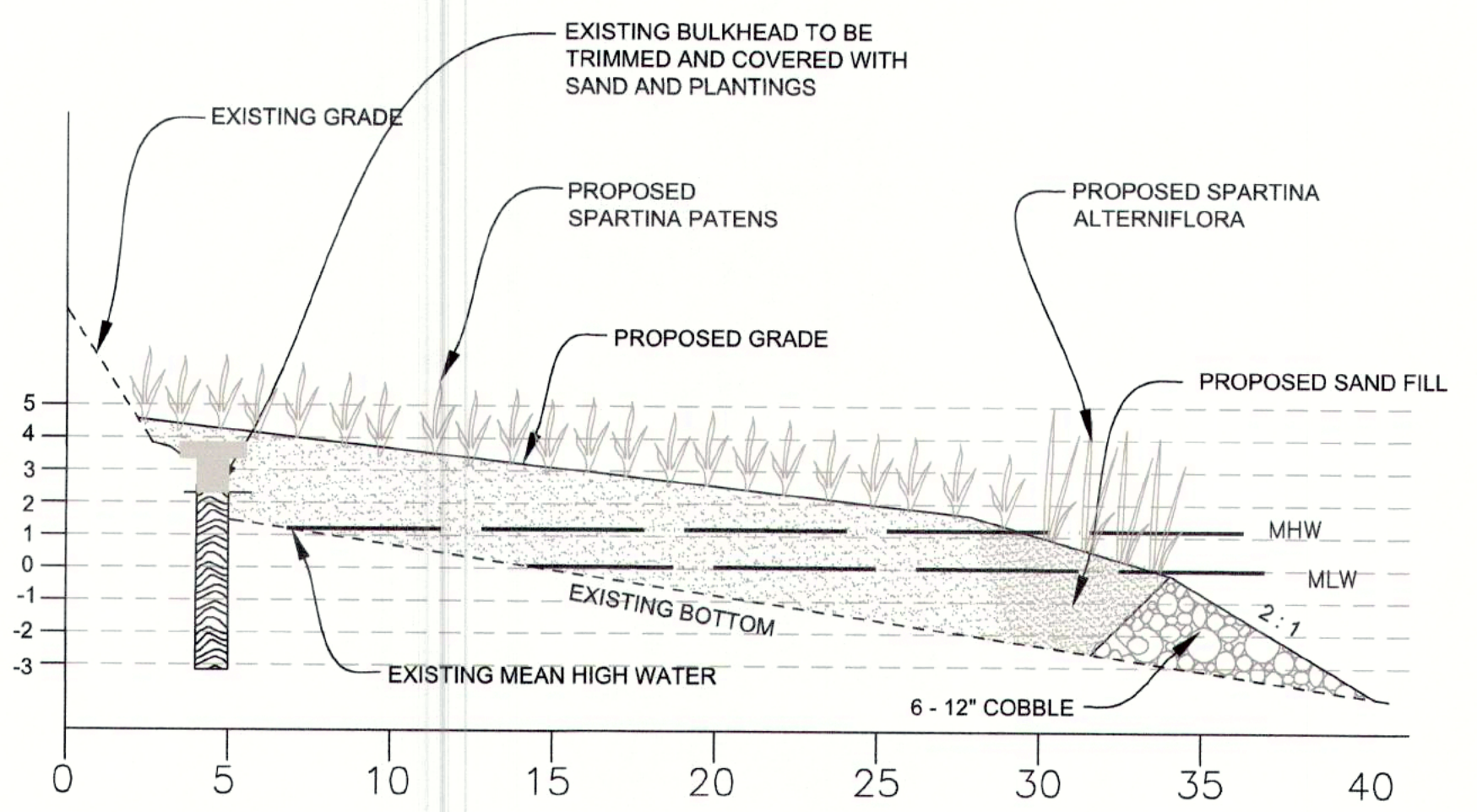
- NOTES:
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WOODY DEBRIS ANCHORING (TYP.) - PROFILE VIEW

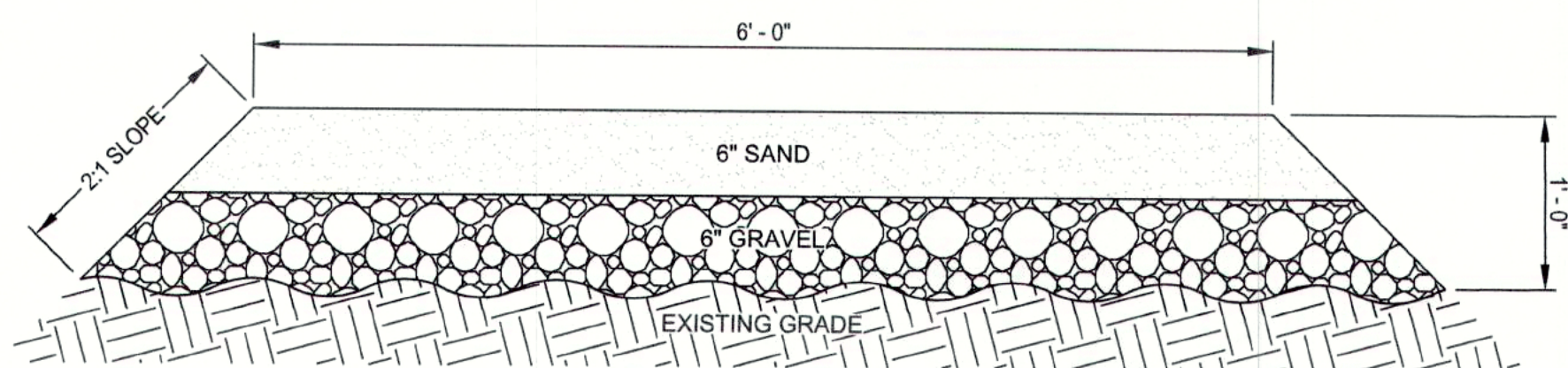


- NOTES:
- THE EMBEDDED TREE WITH EXPOSED ROOT BALL IS SET AT THE EXISTING GRADE. THIS DETAIL SHOWS THE ROOT BALL SLIGHTLY ELEVATED IN ORDER TO DISPLAY BOTH TREES. SEE PLAN VIEW FOR ALIGNMENT.

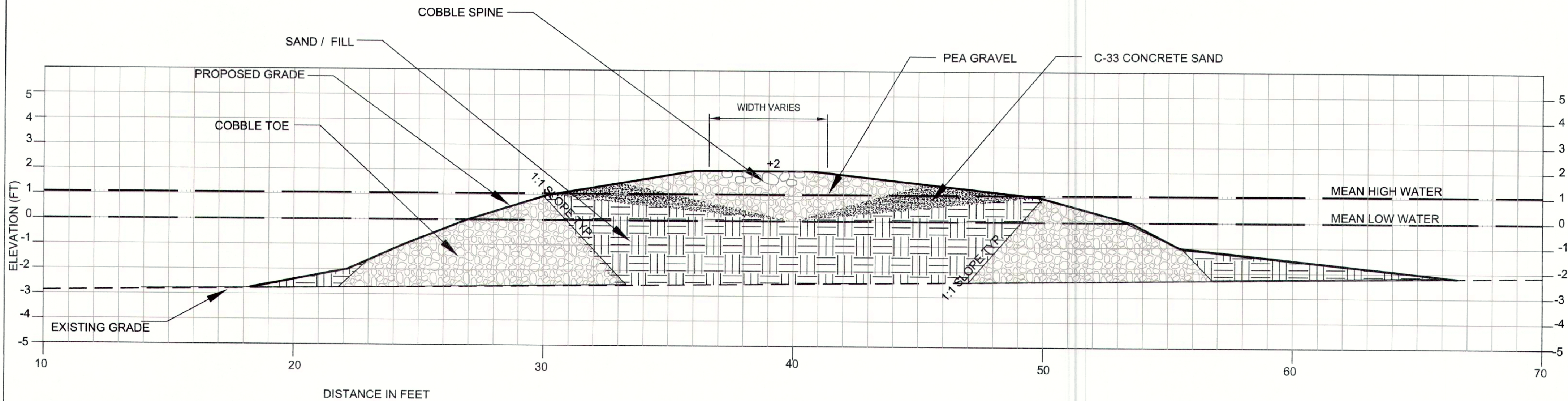
TOMBOLO DETAIL - TYPICAL PROFILE VIEW  
NOT TO SCALE



RIPIARIAN ACCESS PATH  
NOT TO SCALE



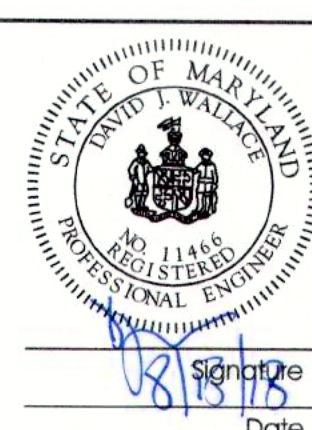
TOMBOLO DETAIL - TYPICAL CROSS SECTION VIEW



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<b>STANDARD DETAILS</b> <b>CLAUSON LIVING SHORELINE</b> 303, 301, & 300 KYLE ROAD MAP 5293 & 5294, GRID K2 & A2, PARCEL 0151 FORMERLY MAP 0031, GRID 0024, PARCEL 0151 2ND ELECTION DISTRICT, ANNE ARUNDEL COUNTY
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VEGETATIVE ESTABLISHMENT

Following initial soil disturbances or redistribution, permanent or temporary stabilization shall be completed within three calendar days for the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes greater than 3 horizontal to 1 vertical (3:1) and seven days for all other disturbed or graded areas on the project site.

1. Permanent Seeding:
- A. Soil Tests: Lime and fertilizer will be applied per soil tests results for sites greater than 5 acres. Soil tests will be done at completion of initial rough grading or as recommended by the sediment control inspector. Rates and analyses will be provided to the grading inspector as well as the contractor.

Occurrence of acid sulfate soils (grayish black color) will require covering with a minimum of 12 inches of clean soil with 6 inches minimum capping of top soil. No stockpiling of material is allowed. If needed, soil tests should be done before and after a 6-week incubation period to allow oxidation of sulfates.

The minimum soil conditions required for permanent vegetative establishment are:

- a. Soil pH shall be between 6.0 and 7.0.
- b. Soluble salts shall be less than 500 parts per million (ppm).
- c. The soil shall contain less than 40% clay but enough fine grained material (> 30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lovegrass or sericea lespedeza is to be planted, then a sandy soil (< 30% silt plus clay) would be acceptable.
- d. Soil shall contain 1.5% minimum organic matter by weight.
- e. Soil must contain sufficient pore space to permit adequate root penetration.
- f. If these conditions cannot be met by soils on site, adding topsoil is required in accordance with the Standard and Specification for Soil Preparation, Topsoiling, and Soil Amendments from the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control or amendments made as recommended by a certified agronomist.
- B. Seedbed Preparation: Area to be seeded shall be loose and friable to a depth of at least 3-5 inches. The top layer shall be loosened by raking, disking or other acceptable means before seeding occurs. For sites less than 5 acres, apply 100 pounds dolomitic limestone and 21 pounds of 10-10-10 fertilizer per 1,000 square feet. Harrow or disk lime and fertilizer into the soil to a depth of at least 3-5 inches on slopes flatter than 3:1.
- C. Seeding: Apply 5-6 pounds per 1,000 square feet of tall fescue between February 1 and April 30 or between August 15 and October 31. Apply seed uniformly on a moist firm seedbed with a cyclone seeder, cultipacker seeder or hydroseeder (slurry includes seeds and fertilizer, recommended on steep slopes only). Maximum seed depth should be 1/4 inch in clayey soils and 1/2 inch in sandy soils when using other than the hydroseeder method. Irrigate where necessary to support adequate growth until vegetation is firmly established. If other seed mixes are to be used, select from Table B3 and B5 of the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control.
- D. Mulching: Mulch shall be applied to all seeded areas immediately after seeding. During the time periods when seeding is not permitted, mulch shall be applied immediately after grading. Mulch shall be unrotted, unchopped, small grain straw applied at a rate of 2 tons per acre or 90 pounds per 1,000 square feet (2 bales). If a mulch-anchoring tool is used, apply 2.5 tons per acre. Mulch materials shall be relatively free of all kinds of weeds and shall be completely free of prohibited noxious weeds. Spread mulch uniformly, mechanically or by hand, to a depth of 1-2 inches.
- E. Securing Straw Mulch: Straw mulch shall be secured immediately following mulch application to minimize movement by wind or water. The following methods are permitted:
- i. Use a mulch-anchoring tool which is designed to punch and anchor mulch into the soil surface to a minimum depth of 2 inches. This is the most effective method for securing mulch, however, it is limited to relatively flat areas where equipment can operate safely.
- ii. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. If mixed with water, use 50 pounds of wood cellulose fiber per 100 gallons of water.
- iii. Liquid binders may be used. Apply at higher rates at the edges where wind catches mulch, such as in valleys and on crests of slopes. The remainder of the area should appear uniform after binder application. Binders listed in the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control or approved equal shall be applied at rates recommended by the manufacturers.
- iv. Lightweight plastic netting may be used to secure mulch. The netting will be stapled to the ground according to manufacturer's recommendations.

2. Temporary Seeding:
- Lime: 100 pounds of dolomitic limestone per 1,000 square feet.
- Fertilizer: 15 pounds of 10-10-10 per 1,000 square feet.
- Seed: Perennial ryegrass - 0.92 pounds per 1,000 square feet (February 1 through April 30 or August 15 through October 31).
- Millet - 0.92 pounds per 1,000 square feet (May 1 through August 15).
- Same as 1 D and E above.

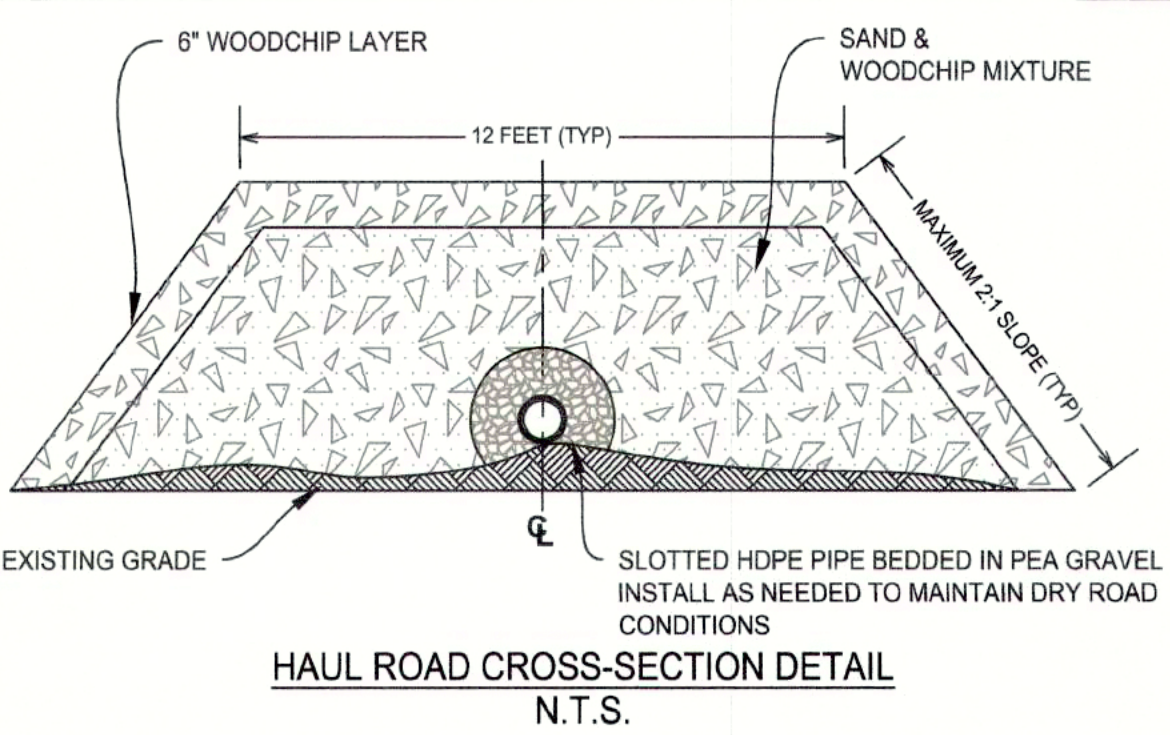
3. No fills may be placed on frozen ground. All fill is to be placed in approximately horizontal layers, each layer having a loose thickness of not more than 8 inches. All compaction requirements are in accordance to Anne Arundel County Standard Specifications for Construction as well as the A.A. County Design Manual and Standard Details. Fills for pond embankments shall be compacted as per MD-378 Construction Specifications. All other fills shall be compacted sufficiently so as to be stable and prevent erosion and slippage.

4. Permanent Sod:
- Installation of sod should follow permanent seeding dates. Seedbed preparation for sod shall be as noted in section (B) above. Permanent sod is to be tall fescue, state approved sod; lime and fertilizer per permanent seeding specifications and lightly irrigate soil prior to laying sod. Sod is to be laid on the contour with all ends tightly abutting. Joints are to be staggered between rows. Water and roll or tamp sod to insure positive root contact with the soil. All slopes steeper than 3:1, as shown, are to be permanently sodded or protected with an approved erosion control netting. Additional watering for establishment may be required. Sod is not to be installed on frozen ground. Sod shall not be transplanted when moisture content (dry or wet) and/or extreme temperature may adversely affect its survival. In the absence of adequate rainfall, irrigation should be performed to ensure establishment of sod.

5. Mining Operations:
- Sediment control plans for mining operations must include the following seeding dates and mixtures:

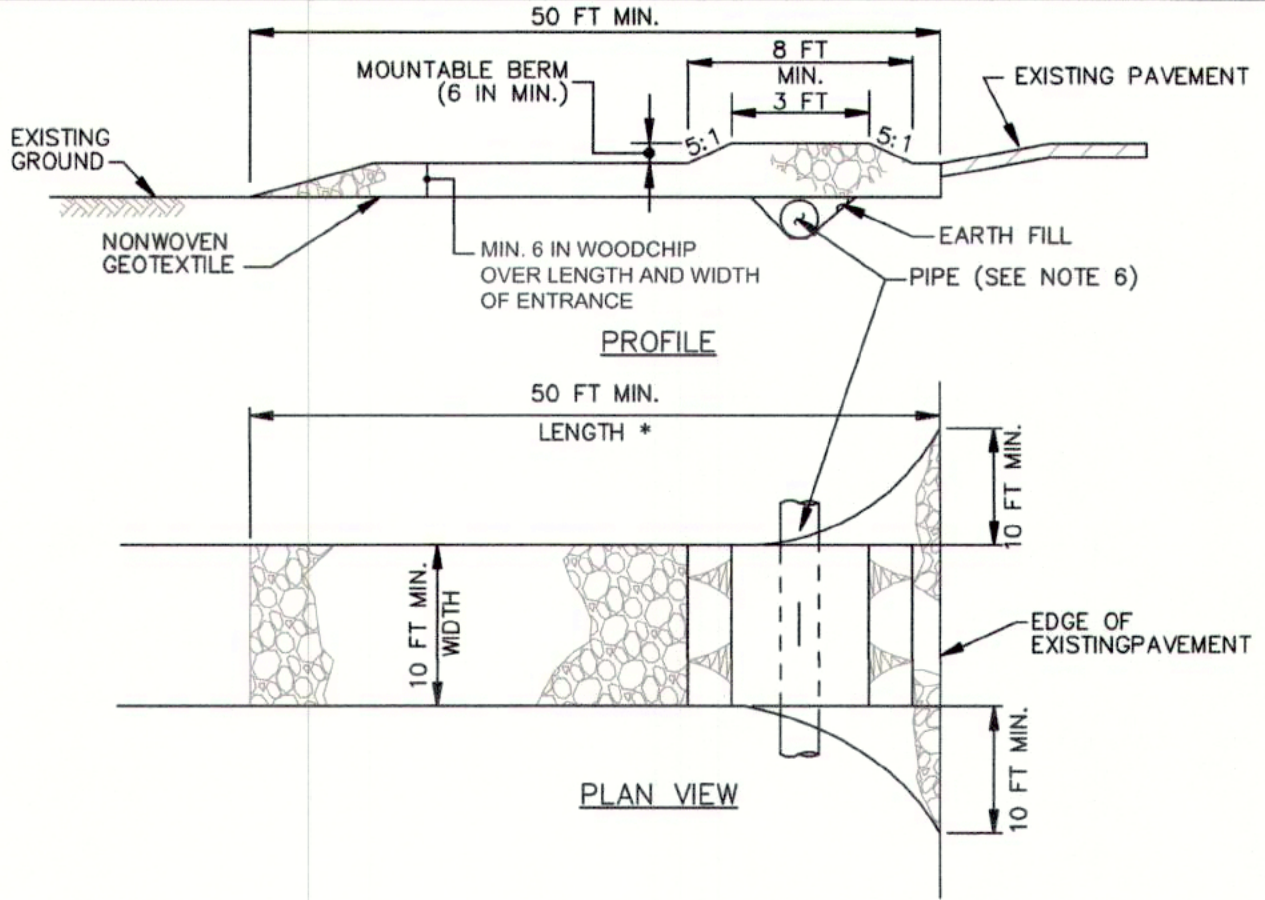
For seeding dates of February 1 through April 30 and August 15 through October 31, use seed mixture of tall fescue at the rate of 2 pounds per 1,000 square feet and sericea lespedeza at the minimum rate of 0.5 pounds per 1,000 square feet.

6. Topsoil shall be applied as per the Standard and Specifications for Soil Preparation, Topsoiling, and Soil Amendments from the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control.



DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL SCE



CONSTRUCTION SPECIFICATIONS

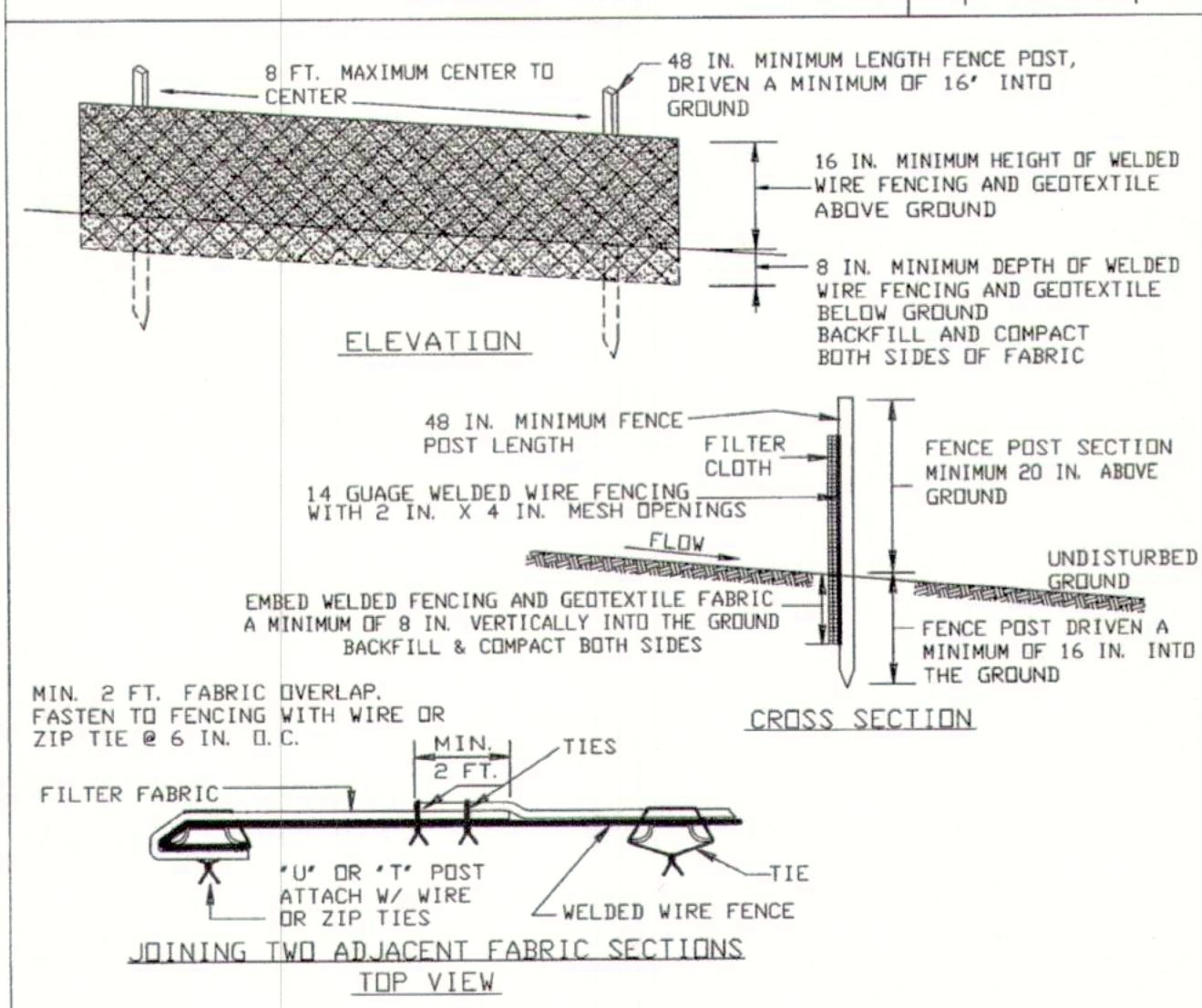
1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (\*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE. MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF WOODCHIP OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
4. PLACE WOODCHIPS AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD WOODCHIPS OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE WOODCHIPS OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
B.2		

REINFORCED SILT FENCE

STANDARD SYMBOL RSF



CONSTRUCTION SPECIFICATIONS

1. Metal fence post shall be a minimum of 48 inches long, driven 16 inches minimum into the ground and no more than 8 feet apart. Post shall be standard T or U section weighing not less than 1.00 pound per linear foot. Reinforcement shall be 14 gauge welded wire fencing with 2 inch X 4 inch mesh openings.
2. Geotextile shall be fastened securely to each fence post with wire ties or zip ties at top and mid section. Where ends of geotextile fabric come together, they shall be overlapped, folded and wire tied or zip tied to post to prevent sediment bypass.
3. Use a woven geotextile, as specified in section H-1 materials, and fasten to the upslope side of the fence posts with wire or zip ties at top and midsection. The Manufacturer's certification that the fabric meets the requirements in section H-1 must be made available to the inspection/enforcement authority.
4. Extend both ends of reinforced silt fence a minimum of five (5) horizontal feet upslope at 45 degrees to the main fence alignment to prevent runoff from going around the ends.
5. Remove accumulated sediment and debris when bulges develop in the reinforced silt fence fabric or when sediment reaches 25% of the fence height. Replace geotextile if torn. If undermining occurs, reinstall fence.

ANNE ARUNDEL SOIL CONSERVATION DISTRICT 2015

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STD & SPEC 3.27

TURBIDITY CURTAIN

TC

Definition

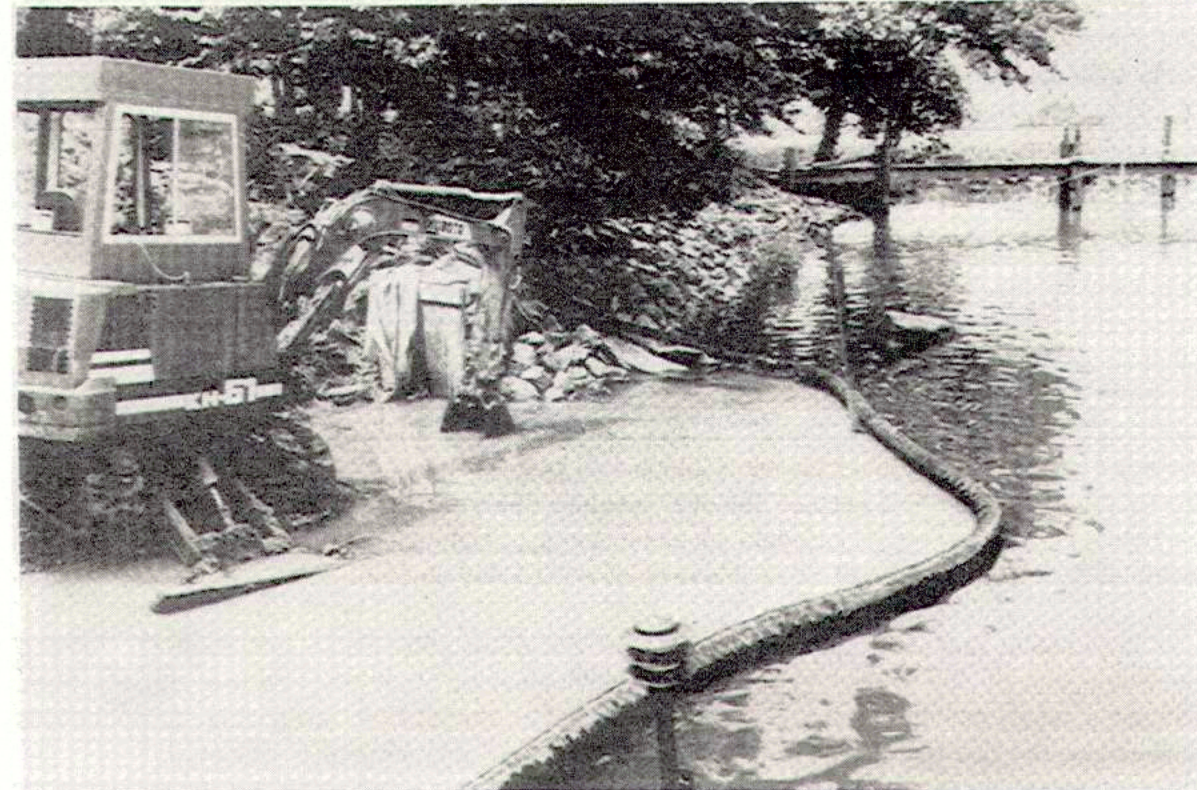
A floating geotextile material which minimizes sediment transport from a disturbed area adjacent to or within a body of water.

Purpose

To provide sedimentation protection for a watercourse from up-slope land disturbance or from dredging or filling within the watercourse.

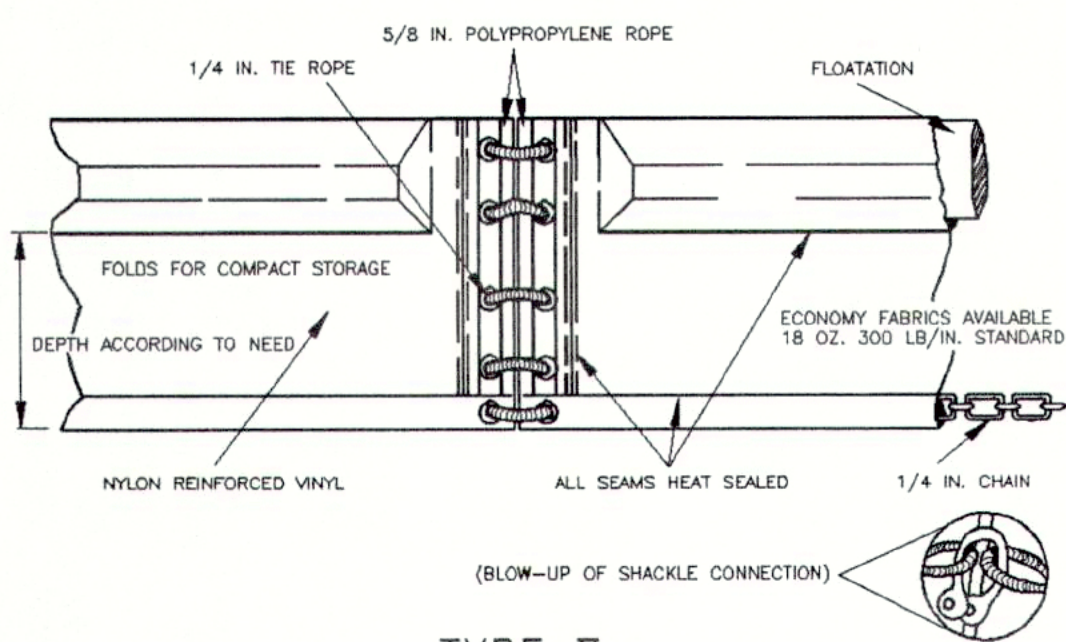
Conditions Where Practice Applies

Applicable to non-tidal and tidal watercourses where intrusion into the watercourse by construction activities and subsequent sediment movement is unavoidable.

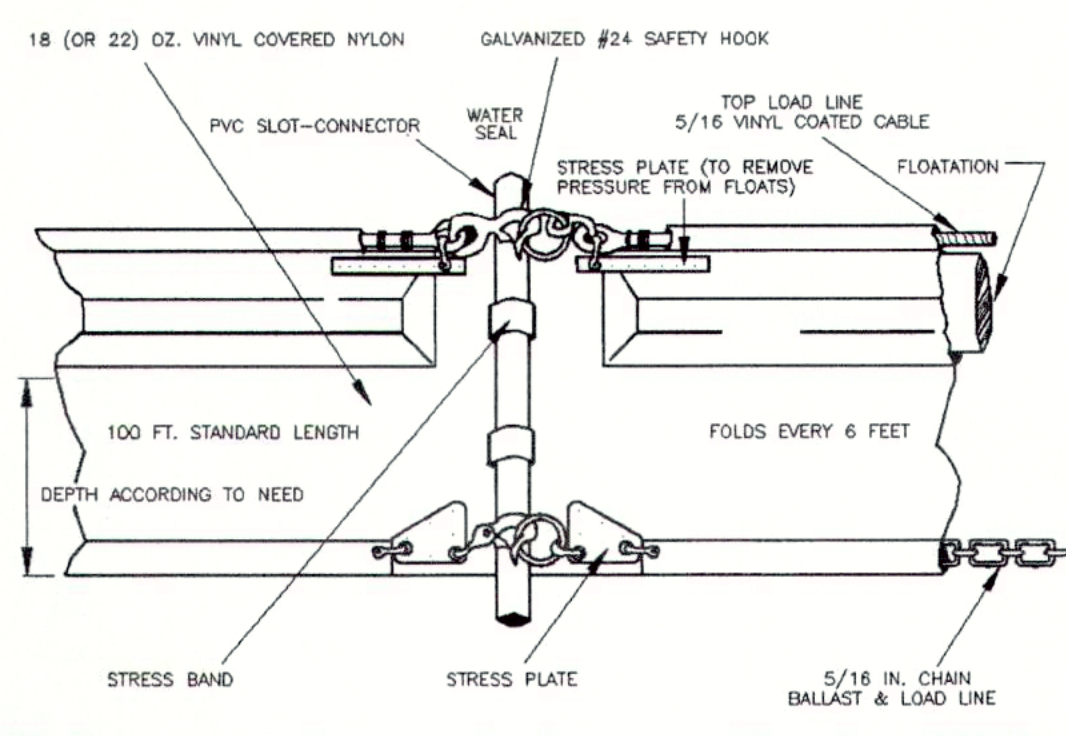


TURBIDITY CURTAIN

TYPE I



TYPE II



Source: American Boom and Barrier Corp. product literature

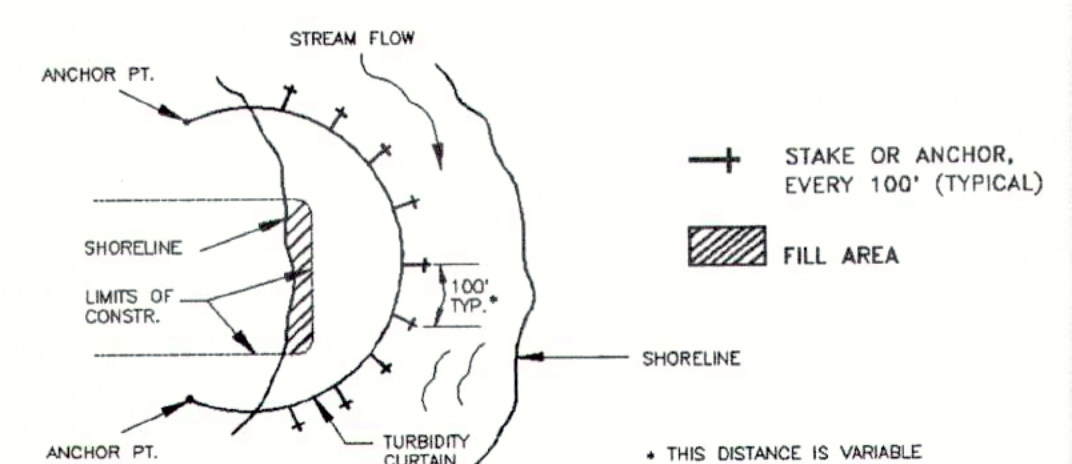
Plate 3.27-1

Design Criteria

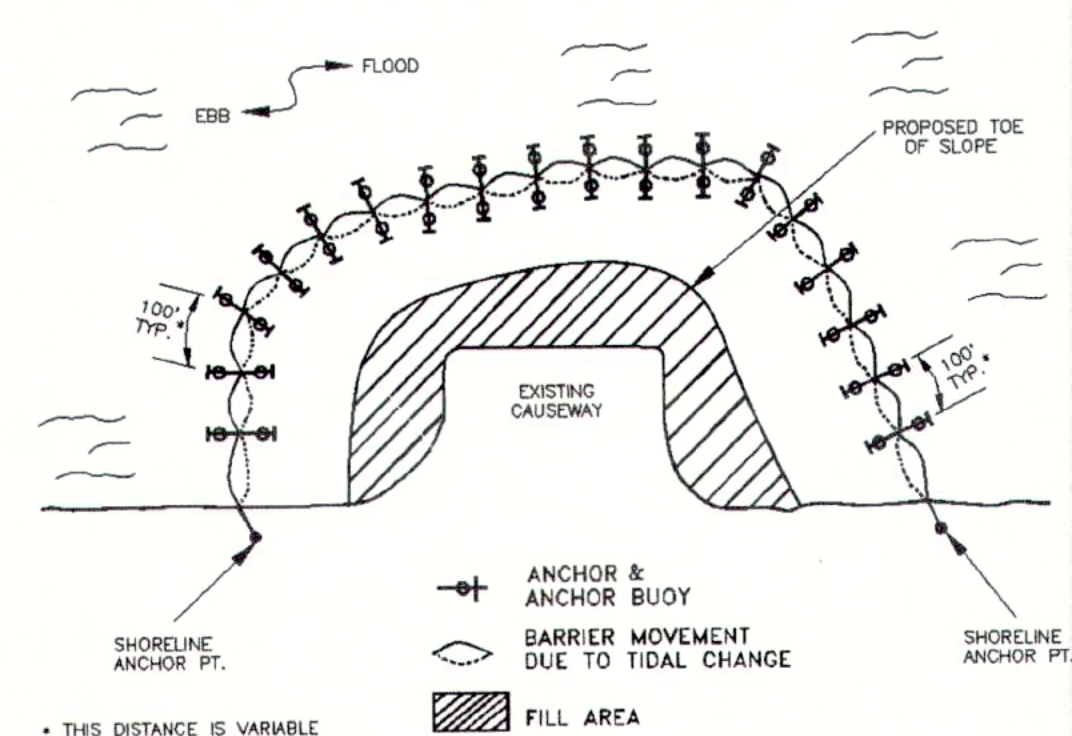
1. Type I configuration (see Plate 3.27-1) should be used in protected areas where there is no current and the area is sheltered from wind and waves.
2. Type II configuration (see Plate 3.27-1) should be used in areas where there may be small to moderate current running (up to 2 knots or 3.5 feet per second) and/or wind and wave action can effect the curtain.
3. Type III configuration (see Plate 3.27-2) should be used in areas where considerable current (up to 3 knots or 5 feet per second) may be present, where tidal action may be present and/or where the curtain is potentially subject to wind and wave action.
4. Turbidity curtains should extend the entire depth of the watercourse whenever the watercourse in question is not subject to tidal action and/or significant wind and wave forces.
5. In tidal and/or wind and wave action situations, the curtain should never be so long as to touch the bottom. A minimum 1-foot "gap" should exist between the weighted lower end of the skirt and the bottom at "mean" low water. Movement of the lower skirt over the bottom due to tidal reverses or wind and wave action on the flotation system may fan and stir sediments already settled out.
6. In tidal and/or wind and wave action situations, it is seldom practical to extend a turbidity curtain depth lower than 10 to 12 feet below the surface, even in deep water. Curtains which are installed deeper than this will be subject to very large loads with consequent strain on curtain materials and the mooring system. In addition, a curtain installed in such a manner can "billow up" towards the surface under the pressure of the moving water, which will result in an effective depth which is significantly less than the skirt depth.
7. Turbidity curtains should be located parallel to the direction of flow of a moving body of water. Turbidity Curtain should not be placed across the main flow of a significant body of moving water.
8. When sizing the length of the floating curtain, allow an additional 10-20% variance in the straight line measurements. This will allow for measuring errors, make installing easier and reduce stress from potential wave action during high winds.
9. An attempt should be made to avoid an excessive amount of joints in the curtain; a minimum continuous span of 50 feet between joints is a good "rule of thumb."
10. For stability reasons, a maximum span of 100 feet between joints (anchor or stake locations) is also a good rule to follow.

TURBIDITY CURTAIN

TYPICAL LAYOUTS:  
STREAMS, PONDS & LAKES (PROTECTED & NON-TIDAL)



TIDAL WATERS AND/OR HEAVY WIND & WAVE ACTION



Source: Adapted from Florida Department of Transportation Road and Design Specifications

Plate 3.27-3

B-4.2 STANDARDS AND SPECIFICATIONS

FOR

SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

Definition

The process of preparing the soils to sustain adequate vegetative stabilization.

Purpose

To provide a suitable soil medium for vegetative growth.

Conditions Where Practice Applies

Where vegetative stabilization is to be established.

Criteria

- A. Soil Preparation
1. Temporary Stabilization
- a. Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to the contour of the slope.
- b. Apply fertilizer and lime as prescribed on the plans.
- c. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.
2. Permanent Stabilization
- a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
- i. Soil pH between 6.0 and 7.0.
- ii. Soluble salts less than 500 parts per million (ppm).
- iii. Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: if lovegrass will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.
- iv. Soil contains 1.5 percent minimum organic matter by weight.
- v. Soil contains sufficient pore space to permit adequate root penetration.
- b. Application of amendments or topsoil is required if on-site soils do not meet the above conditions.
- c. Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.
- d. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
- e. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seedbed preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seedbed loosening may be unnecessary on newly disturbed areas.

Topsoiling

1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.
2. Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.
3. Topsoiling is limited to areas having 2:1 or flatter slopes where:
- a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
- b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
- c. The original soil to be vegetated contains material toxic to plant growth.
- d. The soil is so acidic that treatment with limestone is not feasible.
4. Areas having slopes steeper than 2:1 require special consideration and design.
5. Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:
- a. Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2 inches in diameter.
- b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified.
- c. Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
6. Topsoil Application
- a. Erosion and sediment control practices must be maintained when applying topsoil.
- b. Uniformly distribute topsoil in a 5 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations must be corrected in order to prevent the formation of depressions or water pockets.
- c. Topsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

Soil Amendments (Fertilizer and Lime Specifications)

1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
2. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be delivered to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer.
3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will pass through a #20 mesh sieve.
4. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means.
5. Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil.

AUGUST 15, 2018

DETAILS AND NOTES

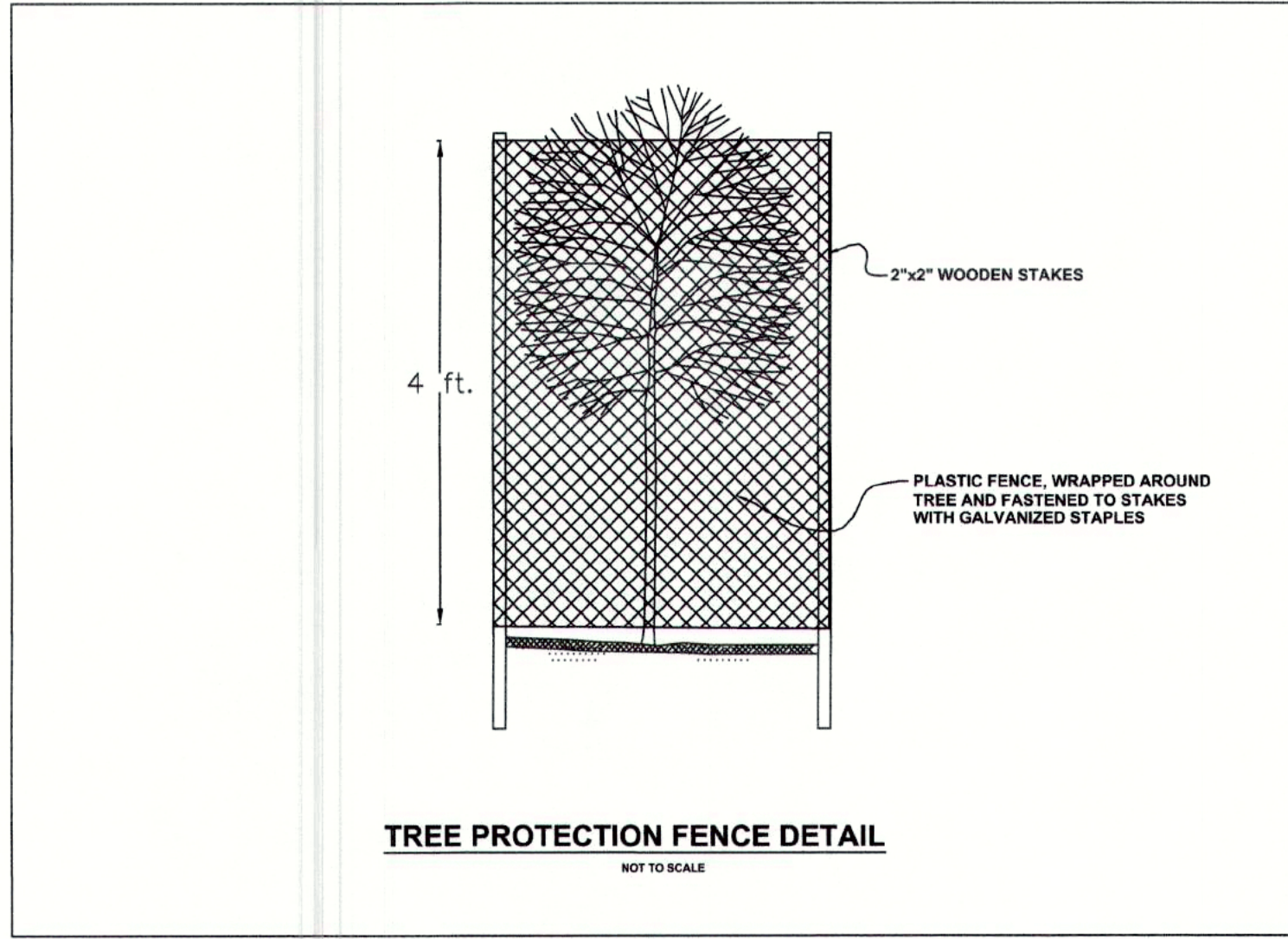
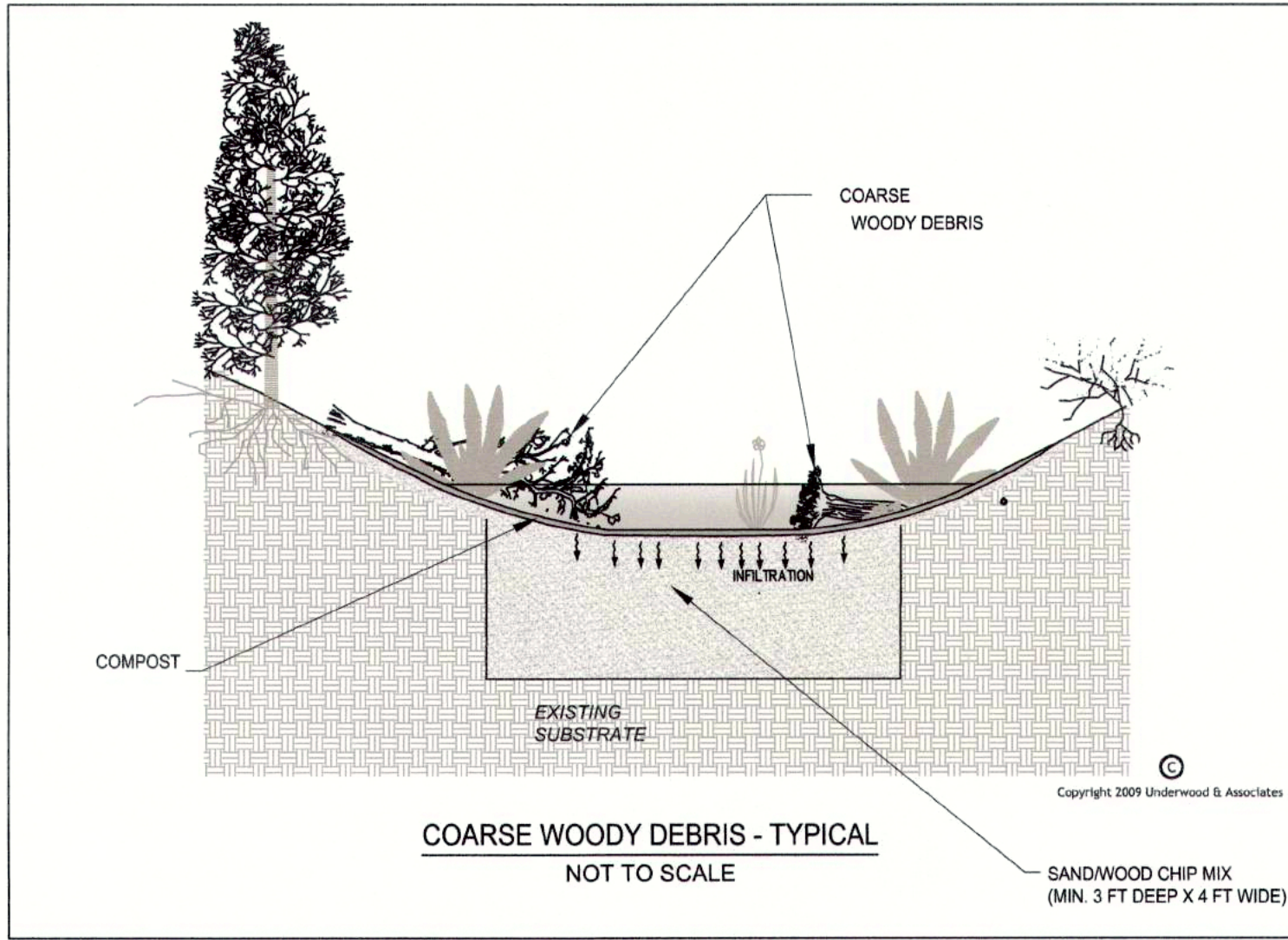
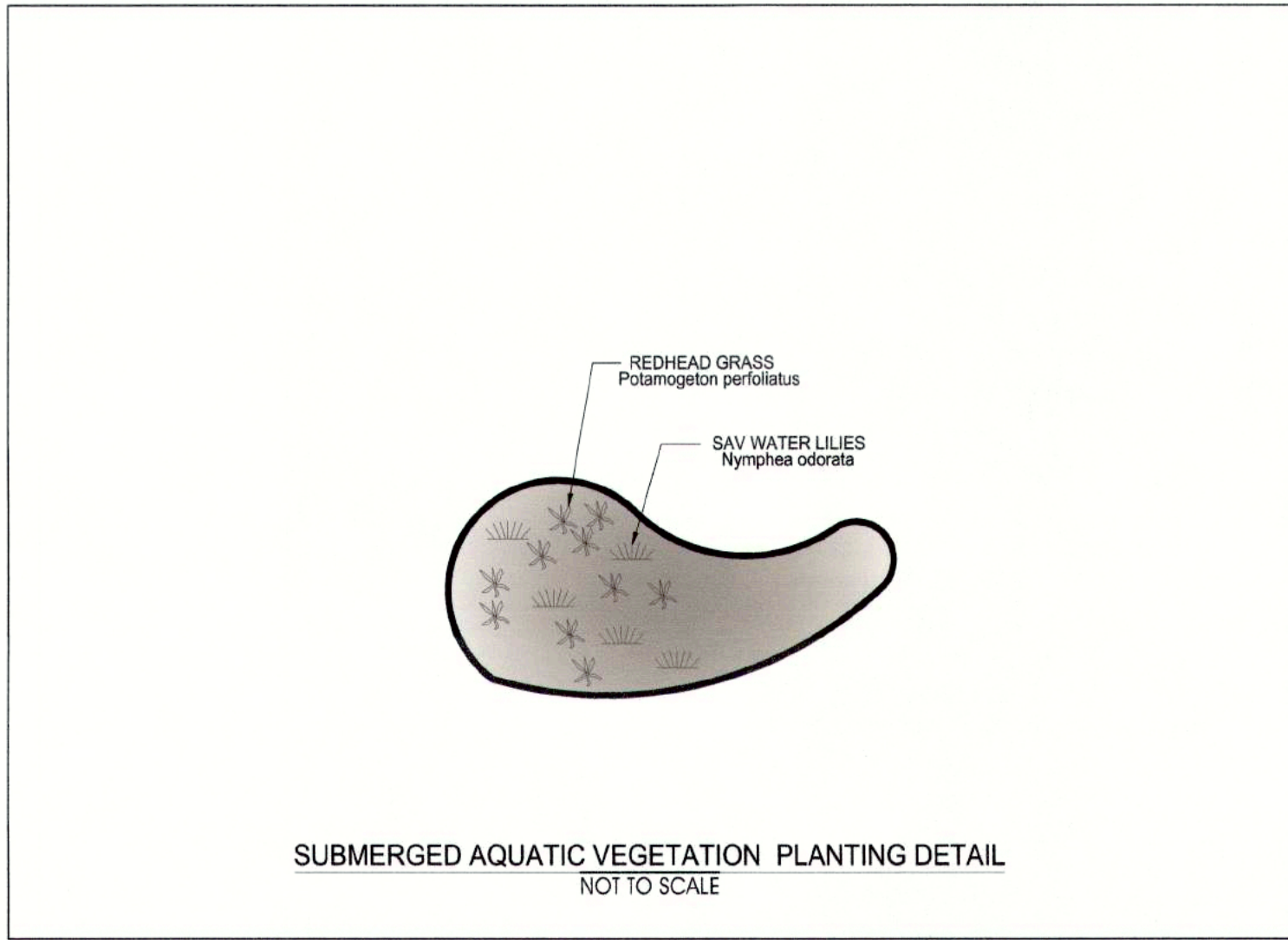
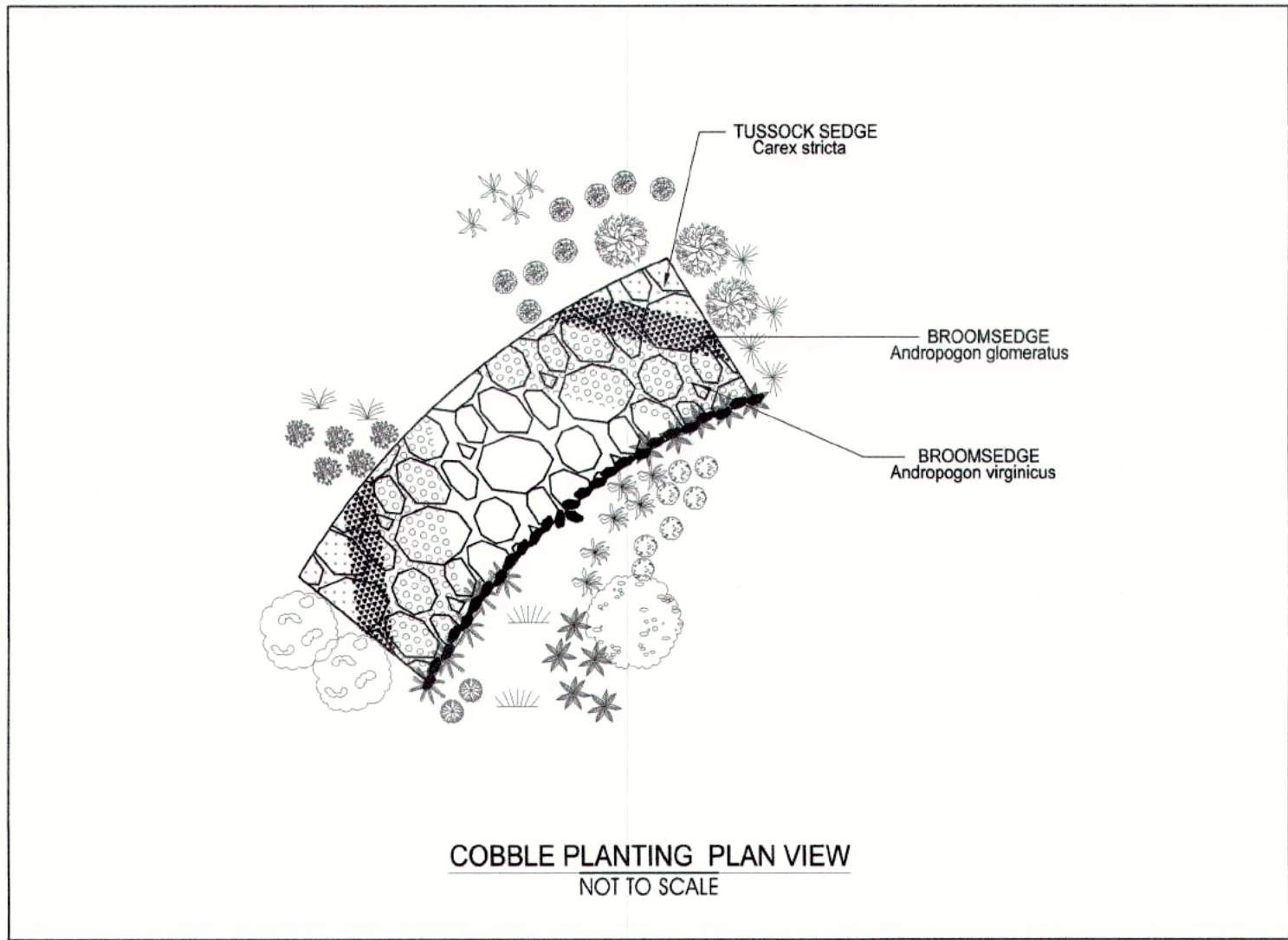
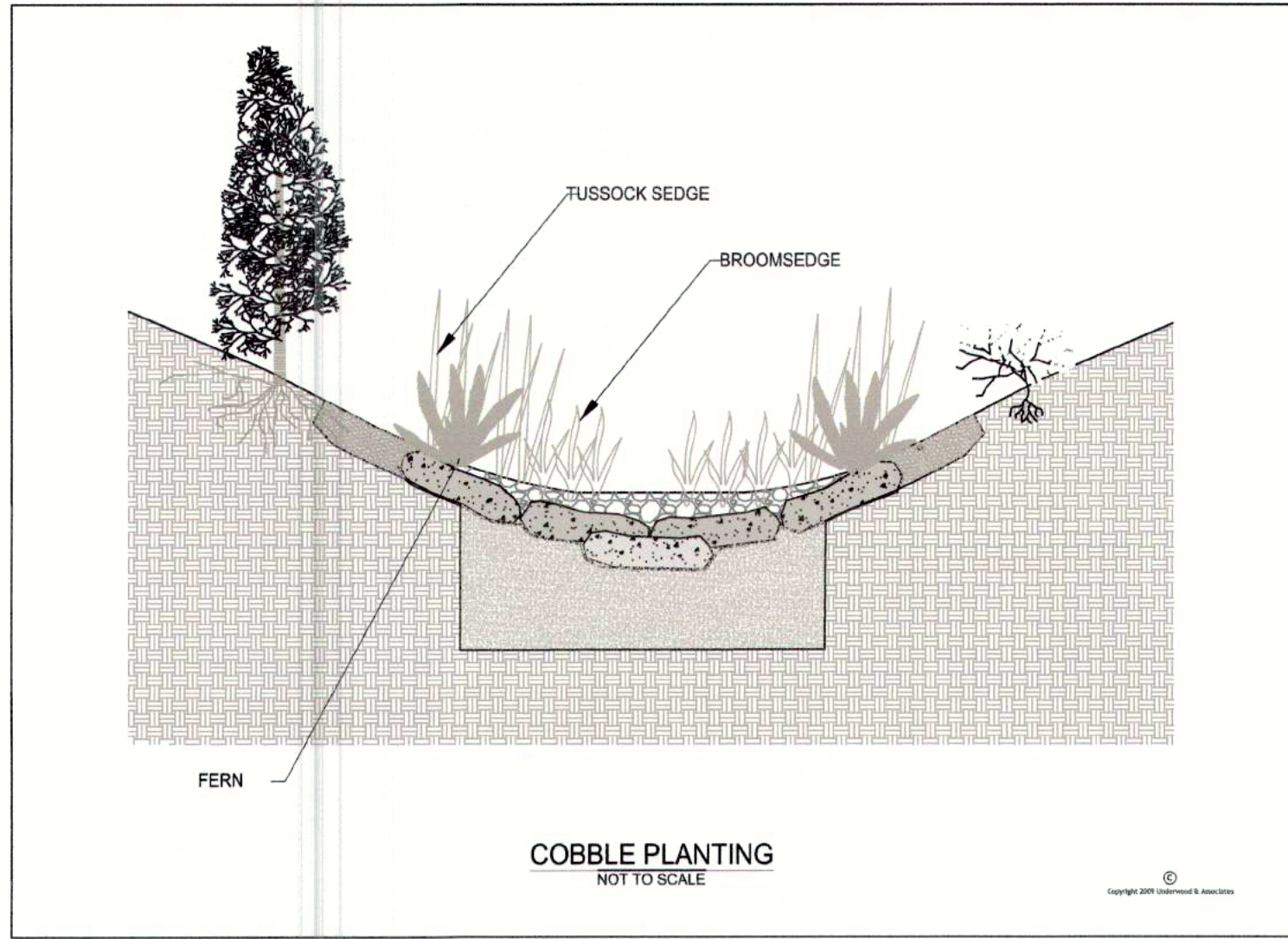
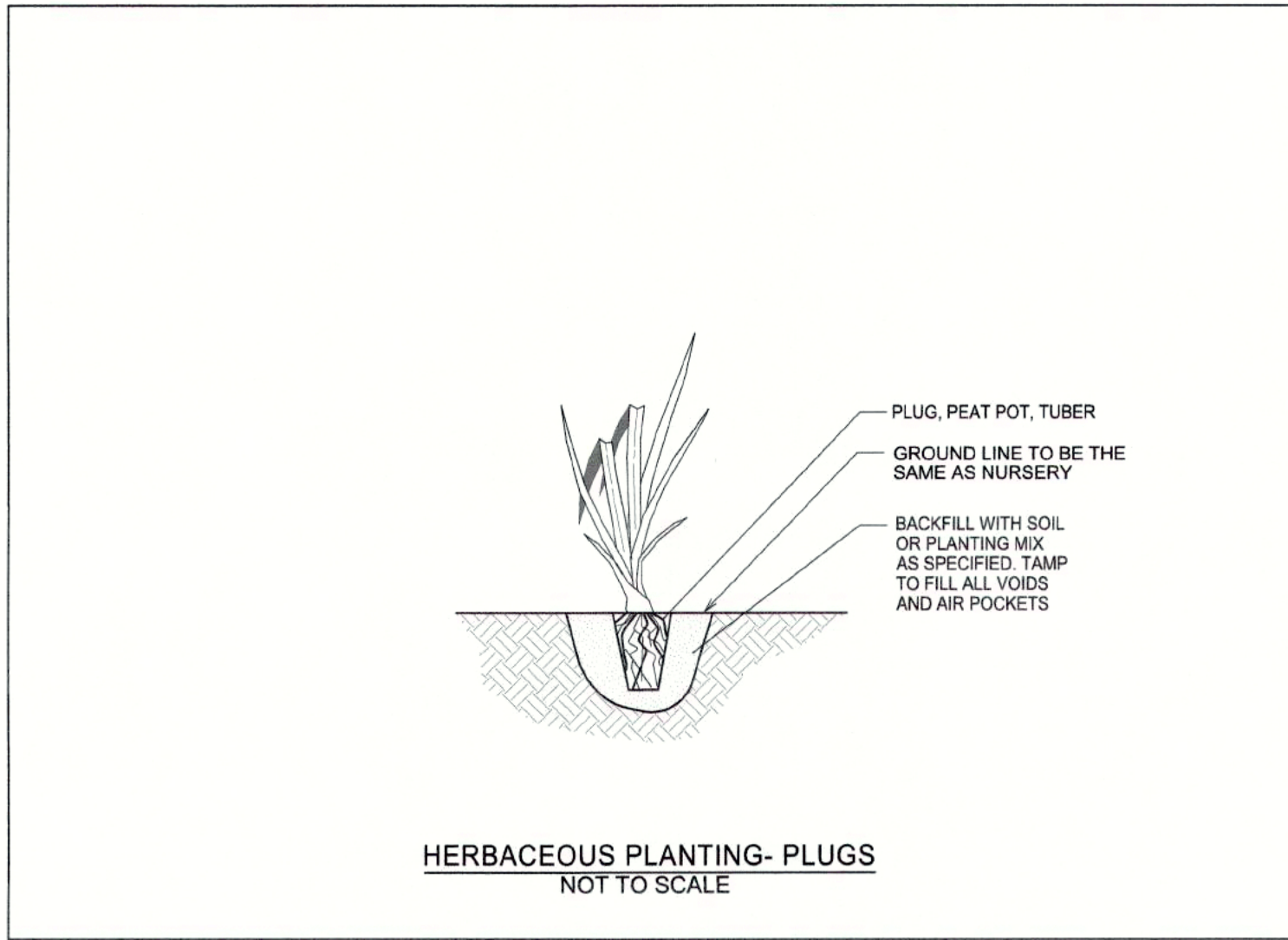
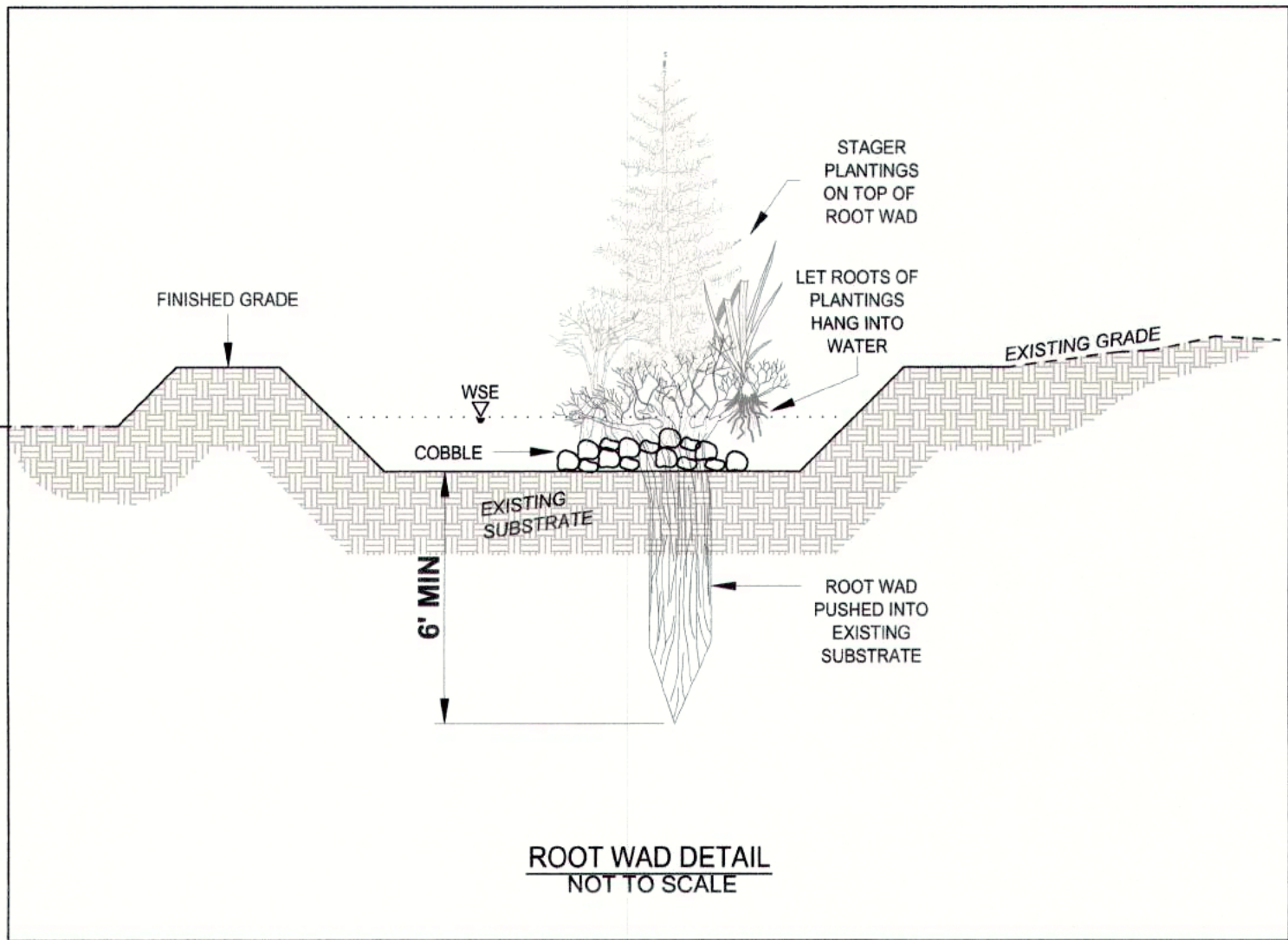
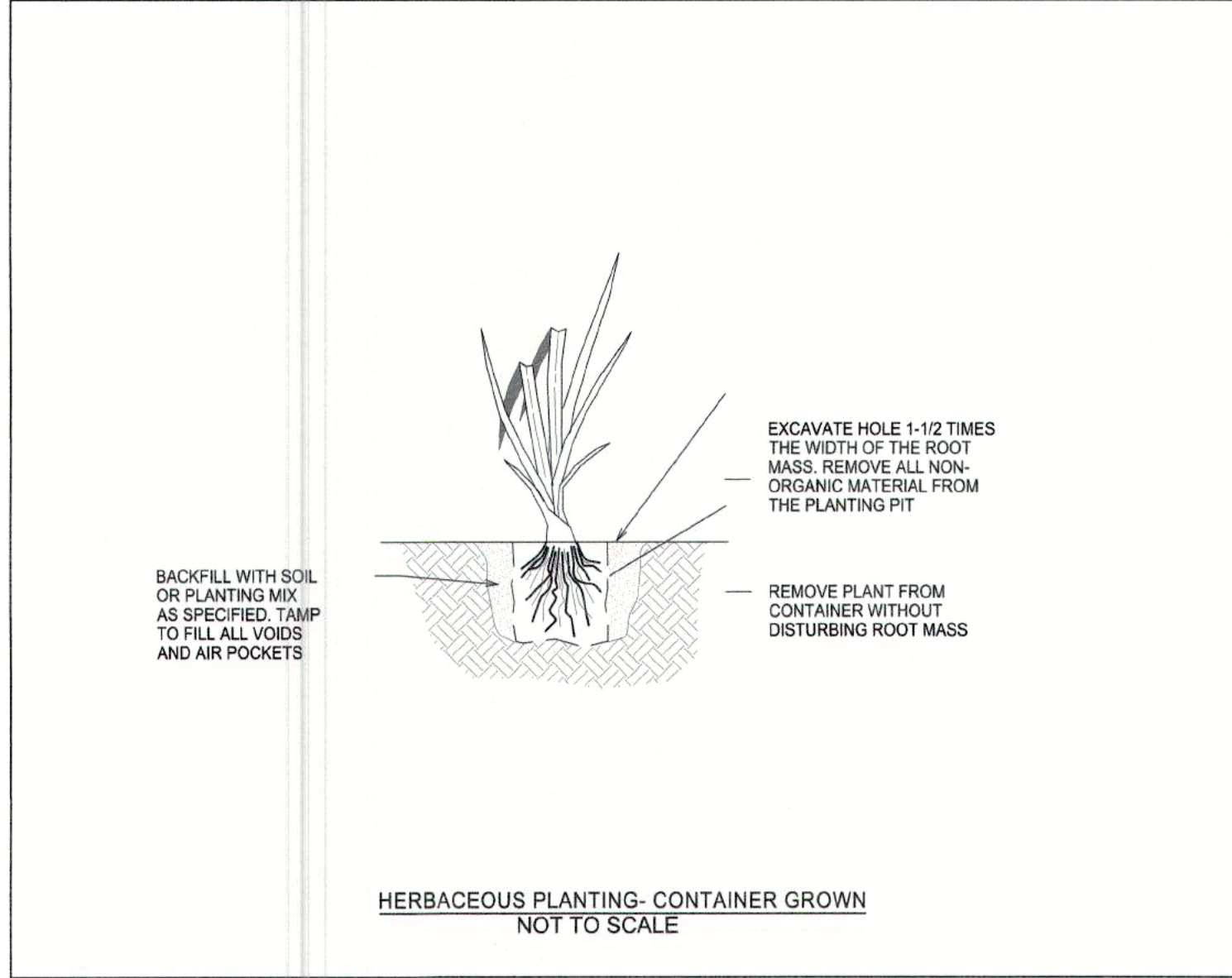
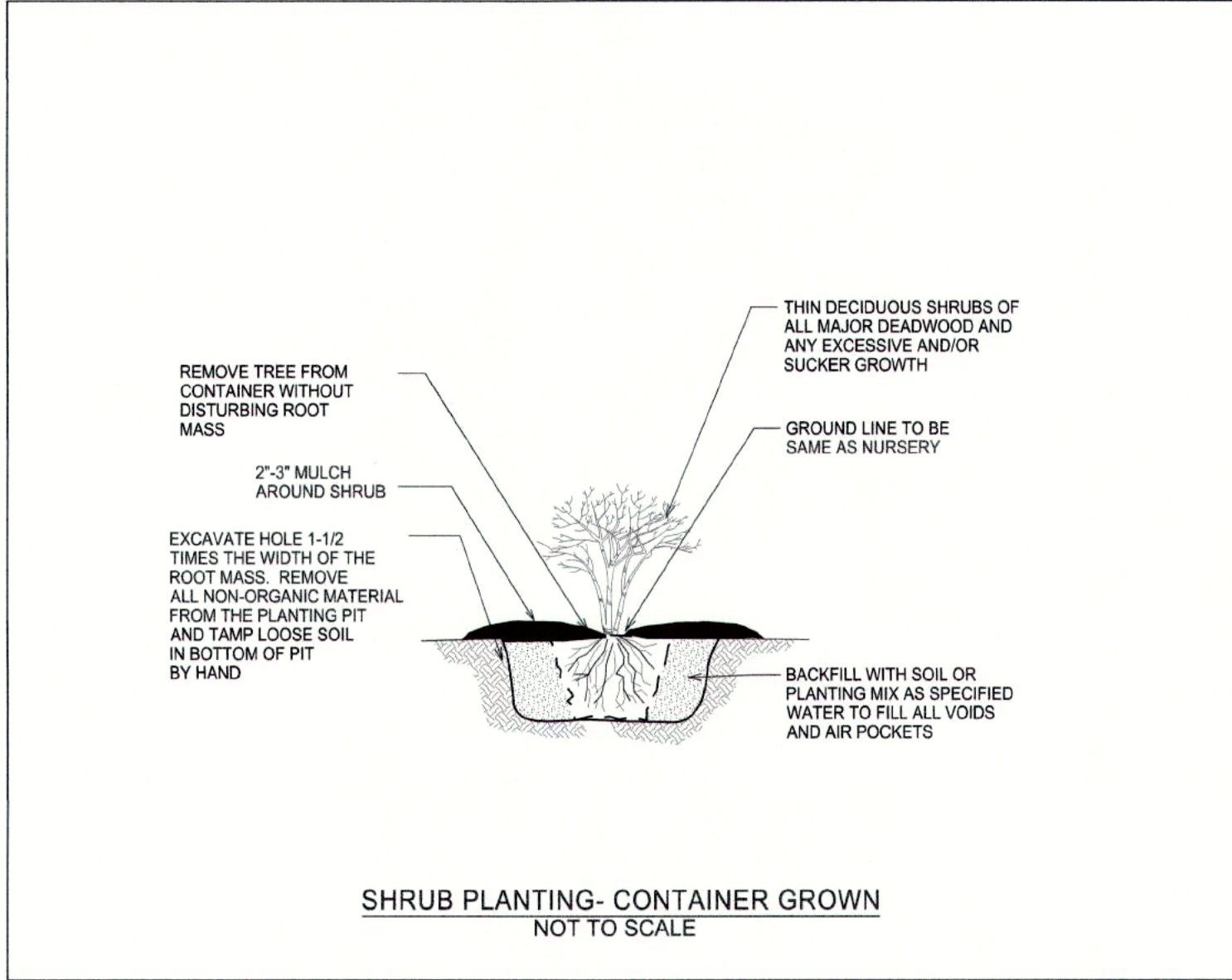
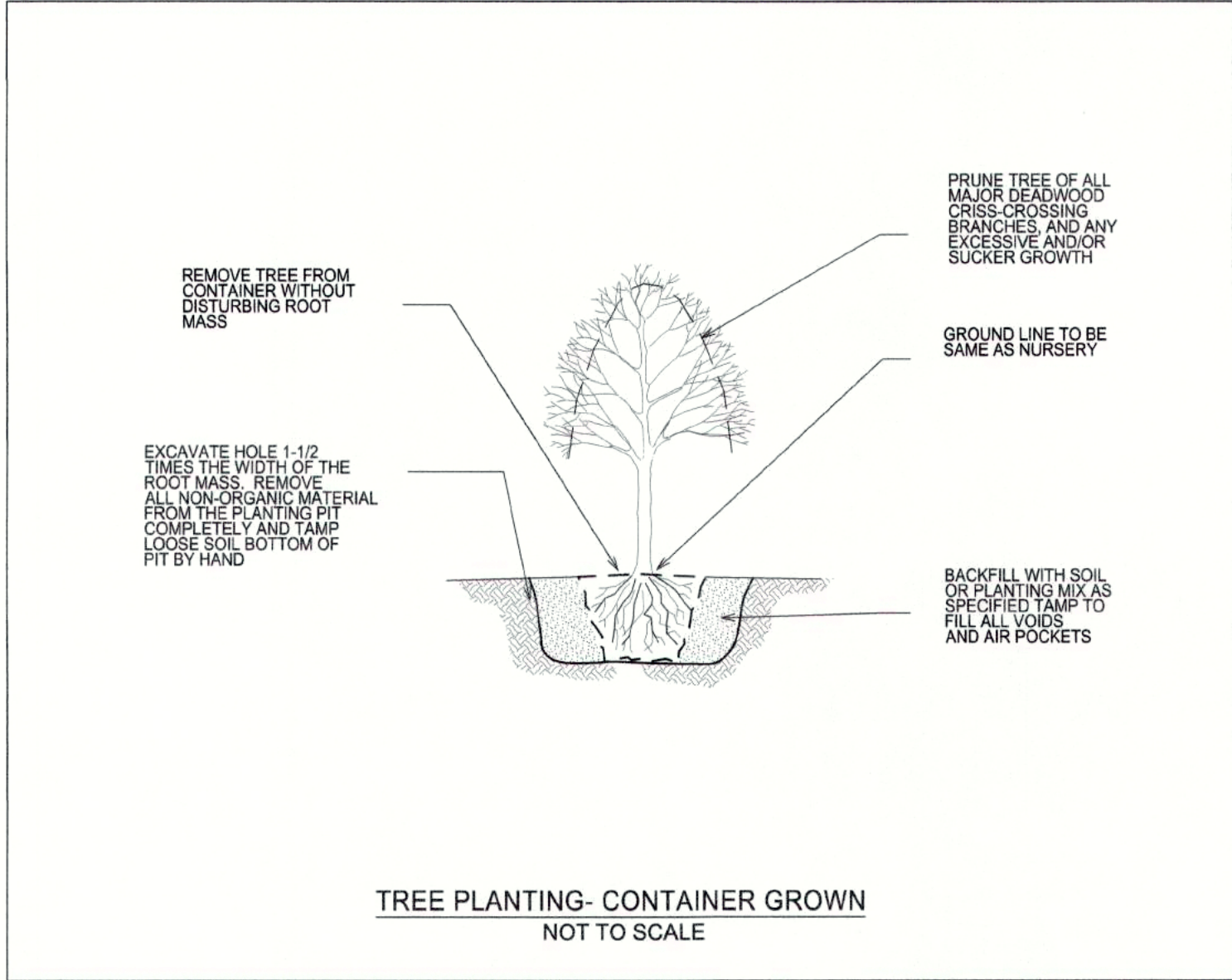
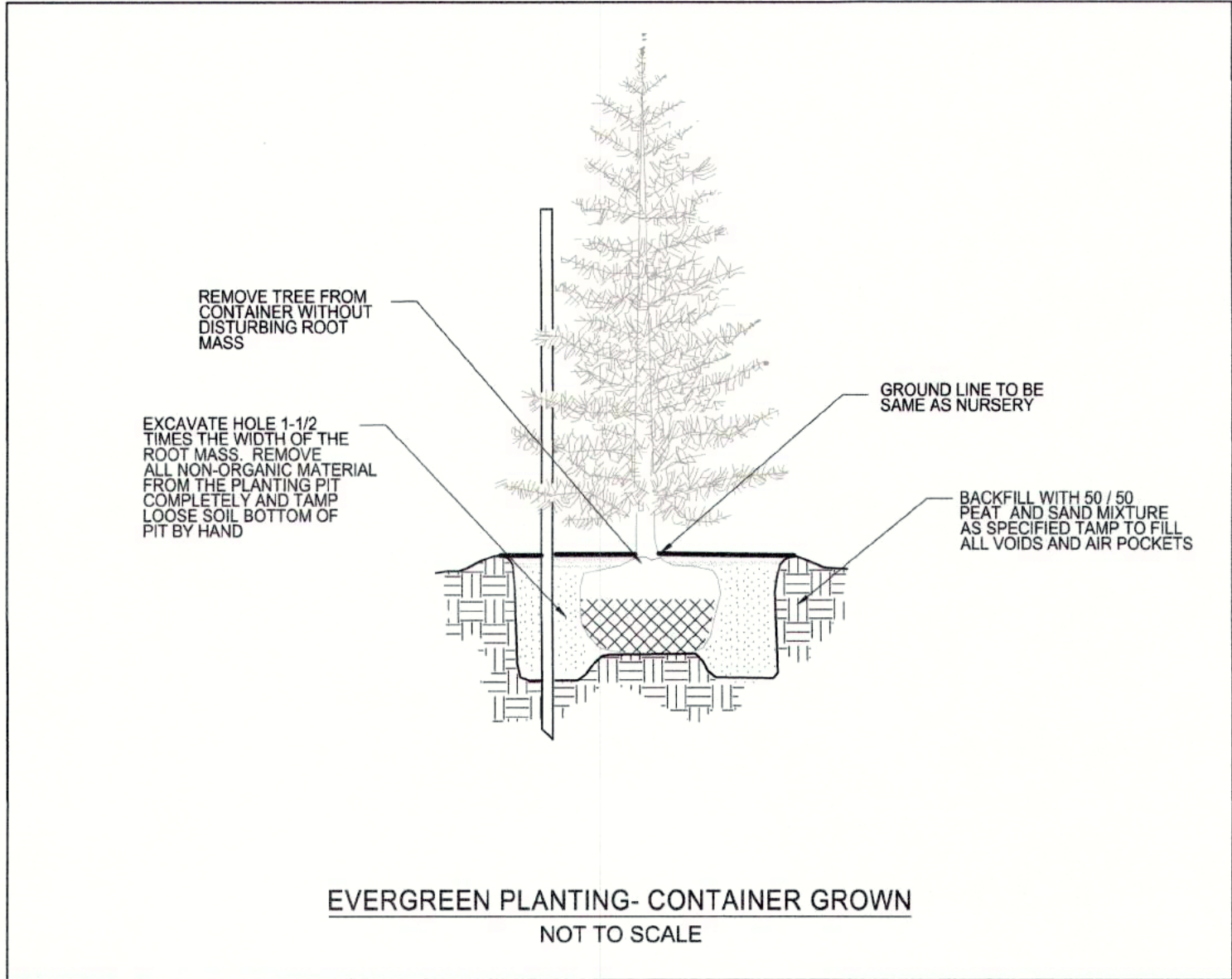
CLAUSON LIVING SHORELINE

303, 301, & 300 KYLE ROAD  
MAP 5293 & 5294, GRID K2 & A2, PARCEL 0151  
FORMERLY MAP 0031, GRID 0024, PARCEL 0151  
2ND ELECTION DISTRICT, ANNE ARUNDEL COUNTY

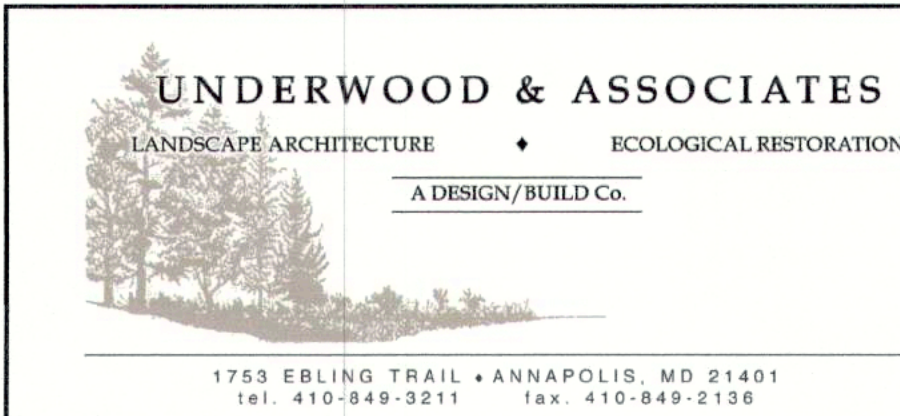






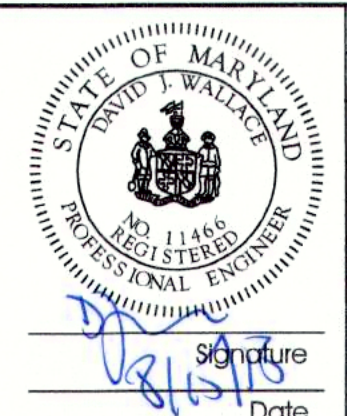


PLOTTED: Aug 14, 2018 - 12:03pm



No.	Date	Revision	By	Approved By

DAVID J. WALLACE, P.E.  
PROFESSIONAL CERTIFICATION  
I, DAVID J. WALLACE, CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 11466  
EXPIRATION DATE: MAY 28, 2019.  
DAVID J. WALLACE, P.E.  
701 CHESAPEAKE AVENUE  
ANNAPOLIS, MD 21403  
BUSINESS PH. 410.654.1225



Revised	Date	By

Approved	Date	Approved	Date
Chief, Engineer		Project Manager	
Approved		Approved	
Assistant Chief Engineer		Chief, Right of Way	

Scale	AS SHOWN
Drawn By	J.W.K./K.B.
Approved By	D.W.
Sheet No.	13 Of 13
Project No.	15-028
Proposal No.	...

**PLANTING DETAILS**  
**CLAUSON LIVING SHORELINE**  
303, 301, & 300 KYLE ROAD  
FORMERLY MAP 0031, GRID 0024, PARCEL 0151  
2ND ELECTION DISTRICT, ANNE ARUNDEL COUNTY

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